

LAYOUT: C1.0 COVER SHEET
 PATH: J:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005 08BH Design Phase\98Spec\CADD\DWG\TUMALO RD RBAs\CD\S\Tumalo rd-Tumalo pl
 PLOTTED BY: rcoodov DATE: Wednesday, September 2, 2020 10:13:27 AM



VICINITY MAP
1" = 1000'

DESCHUTES COUNTY ROAD DEPARTMENT

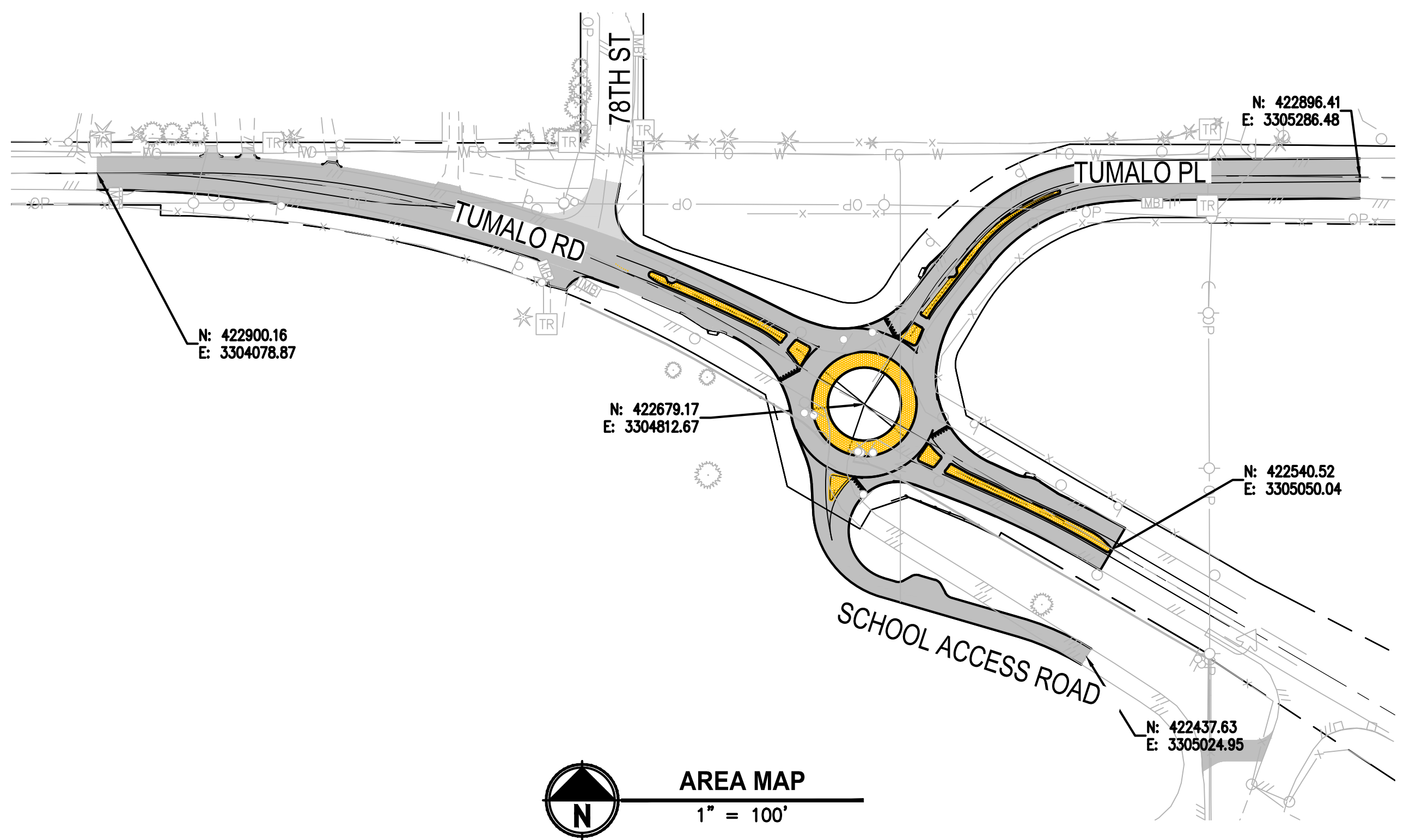
TUMALO RD / TUMALO PL

INTERSECTION IMPROVEMENT

DESCHUTES COUNTY
SEPTEMBER 2020

OWNER DESCHUTES COUNTY ROAD DEPARTMENT 61150 SE 27TH BEND, OR 97702 CONTACT: CODY SMITH PHONE: (541) 322-7113 (OFFICE) EMAIL: cody.smith@deschutes.org	ENGINEER PARAMETRIX 150 NW PACIFIC PARK LANE BEND, OREGON 97701 CONTACT: BARRY JOHNSON, P.E. PHONE: (541) 508-7710 EMAIL: bjohnson@parametrix.com	SURVEYOR PARAMETRIX 150 NW PACIFIC PARK LANE BEND, OR 97701 CONTACT: ANDREW HUSTON PHONE: (541) 508-7710 EMAIL: ahuston@parametrix.com
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SHEET INDEX					
SHEET NUMBER	SHEET TITLE	SHEET NUMBER	SHEET TITLE	SHEET NUMBER	SHEET TITLE
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C2.0	TYPICAL SECTIONS	C7.8	SE FLOWLINE - PLAN & PROFILE	SS6	STRIPING PLAN
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C6.0	GEOMETRY PLAN	C8.3	CONSTRUCTION STAGING-STAGE FOUR	SS11	TEMPORARY SIGNING PLAN-STAGE 4 & 5
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C7.3	SOUTH LEG PLAN & PROFILE	SS1	SIGNING AND STRIPING LEGEND		
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C7.5	NW FLOWLINE - PLAN & PROFILE	SS3	PROPOSED SIGN DETAILS		



AREA MAP
1" = 100'

EXISTING LEGEND: 	PROPOSED LEGEND
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GENERAL NOTES:

ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED IN THIS CONTRACTS SPECIAL PROVISIONS, BE CONSTRUCTED IN ACCORDANCE WITH THE OREGON STATE "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION," REVISED 2018

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT "UNDERGROUND LOCATE SERVICE" AT 1-800-332- 2344, PRIOR TO THE START OF CONSTRUCTION, TO LOCATE POWER, GAS, CABLE TV, AND TELEPHONE UNDERGROUND FACILITIES. THE ONE CALL CENTER BUSINESS HOURS ARE 8:00 AM TO 5:00 PM. ANY LOCATE REQUESTS PLACED AFTER 5:00 P.M., WILL BE TREATED AS IF THEY WERE SUBMITTED AT 8:00 A.M. THE FOLLOWING BUSINESS MORNING. THE 2 BUSINESS-DAY (48 BUSINESS HOURS) WAITING PERIOD BEGINS AT THAT TIME. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR CONTACTING THE APPROPRIATE PUBLIC AGENCY FOR THE LOCATION OF UNDERGROUND FACILITIES.

ATTENTION: OREGON LAW REQUIRES THAT YOU FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN O.A.R 952-001-0010 THROUGH 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER AT 503-232-1987

IT IS THE CONTRACTORS RESPONSIBILITY TO RE-ESTABLISH, PER OREGON REVISED STATUES, ALL SURVEY MONUMENTS DISTURBED OR DESTROYED BY THIS WORK. THIS INCLUDES MONUMENTS NOT SHOWN IN THESE PLANS, WHICH ARE DISCOVERED DURING THE COURSE OF CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ELEVATIONS OF SIDE SHOT MONUMENTS FOR USE AS TEMPORARY BENCH MARKS AND SET TEMPORARY BENCH MARKS OR ADDITIONAL HORIZONTAL CONTROL AS NEEDED.

UPON AWARD OF THE CONTRACT, PARAMETRIX WILL PROVIDE THE CONTRACTOR WITH AN "ASCII" POINT FILE CONTAINING ALL CONTROL POINTS ALONG WITH ALIGNMENT CENTER LINE POINTS AT 50' STATIONS.



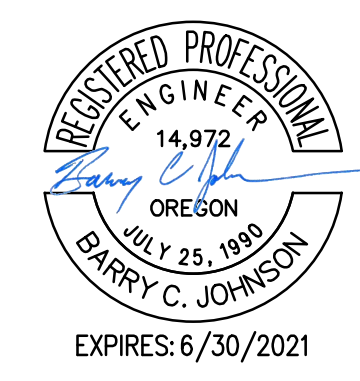
APPROVALS:

DESCHUTES COUNTY ROAD DEPARTMENT: _____

REVISIONS	DATE	BY	DESIGNED	DRAWN	CHECKED	APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY

FILE NAME: BE2509005-C1.0-CS00
 JOB No: 297-2509-005
 DATE: 05/2020



PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

COVER SHEET

DRAWING NO.
1 OF 40
C1.0

CONSTRUCTION NOTES:

- DURING THE COURSE OF THE WORK, CONTRACTOR SHALL COORDINATE AND ACCOMMODATE OTHER CONTRACTORS OR OPERATIONS OF THE COUNTY.
- CONTRACTOR SHALL RESTRICT ALL OPERATIONS TO THE AREAS WITHIN THE PROJECT BOUNDARIES. ANY DISRUPTION TO NATIVE LANDSCAPES, OUTSIDE OF THE PROJECT AREA, SHALL BE RESTORED AT NO COST TO THE OWNER.
- CABLE AND GAS UTILITY TRENCHING SHALL BE COMPLETED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS FROM APPLICABLE UTILITY COMPANIES. ALL CABLE AND GAS UTILITIES WILL BE INSTALLED BY THE APPLICABLE UTILITY COMPANY IN CONFORMANCE WITH THEIR JOINT TRENCH DETAIL. CONTRACTOR SHALL COORDINATE TRENCH EXCAVATIONS, BEDDING AND BACKFILL WITH POWER, PHONE, TELEVISION, AND GAS REPRESENTATIVES.
- ALL FINAL CUT SLOPES SHALL NOT EXCEED A GRADE OF 2 HORIZONTAL TO 1 VERTICAL UNLESS OTHERWISE APPROVED. FILL SLOPES SHALL NOT EXCEED A GRADE OF 2 HORIZONTAL TO 1 VERTICAL UNLESS OTHERWISE APPROVED BY THE ENGINEER OR SHOWN ON THESE PLANS.
- THE CONTRACTOR SHALL EMPLOY ALL LABOR, EQUIPMENT, AND METHODS REQUIRED TO PREVENT DUST IN AMOUNTS DAMAGING TO PROPERTY, CULTIVATED VEGETATION AND DOMESTIC ANIMALS OR CAUSING A NUISANCE TO PERSONS OCCUPYING BUILDINGS IN THE VICINITY OF THE JOB SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY DUST RESULTING FROM CONSTRUCTION.
- THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE INDUSTRIAL SAFETY REGULATIONS. DESCHUTES COUNTY AND THEIR OFFICIALS, THE ENGINEER, AND THE OWNER SHALL NOT BE RESPONSIBLE FOR ENFORCING SAFETY REGULATIONS.
- MATERIAL QUANTITIES USED, NOTED, OR PROVIDED IN A SEPARATE ITEMIZED QUANTITY TAKE-OFF ARE AN ENGINEER'S OPINION OF PROBABLE MATERIAL REQUIREMENTS, AND IS AN ESTIMATE ONLY. CONTRACTORS HAVE THE SOLE RESPONSIBILITY OF MAKING THEIR OWN QUANTITY TAKE-OFF AND COST ESTIMATE.

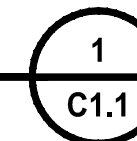
FOUND MONUMENTS TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1180	422196.79	3305804.79	3255.96	5/8" IRON ROD W/ 2" ALUMINUM CAP
1181	422148.52	3305887.17	3256.95	5/8" IRON ROD W/ 2" ALUMINUM CAP
1190	422783.53	3304713.41	3259.89	2" ALUMINUM CAP, DESCHUTES COUNTY
1191	422748.94	3304772.26	3256.12	5/8" IRON ROD, NO CAP, POE
1192	422759.71	3304813.37	3255.86	2" ALUMINUM CAP, DESCHUTES COUNTY, POE
1193	422435.94	3305142.86	3257.91	2" ALUMINUM CAP, DESCHUTES COUNTY
1194	422439.54	3305142.86	3257.48	2" ALUMINUM CAP, DESCHUTES COUNTY
1195	422893.00	3305162.49	3262.25	1" BRASS CAP, 1/4 CORNER
1196	422852.50	3305142.58	3261.44	2" ALUMINUM CAP, DESCHUTES COUNTY, SPIN
1197	422857.69	3305142.44	3262.37	2" ALUMINUM CAP, DESCHUTES COUNTY
1198	422857.73	3305110.82	3262.52	2" ALUMINUM CAP, DESCHUTES COUNTY
1199	422857.81	3305084.36	3262.42	2" ALUMINUM CAP, DESCHUTES COUNTY
1200	422927.95	3305009.00	3263.01	2" ALUMINUM CAP, DESCHUTES COUNTY
1201	422794.33	3304833.63	3256.54	2" ALUMINUM CAP, DESCHUTES COUNTY
1202	422753.93	3304902.67	3256.08	2" ALUMINUM CAP, DESCHUTES COUNTY
1203	422719.35	3304882.43	3256.29	5/8" IRON ROD WITH NO CAP
1204	422678.34	3304893.17	3256.43	2" ALUMINUM CAP, DESCHUTES COUNTY
1205	422605.09	3305018.31	3255.99	2" ALUMINUM CAP, DESCHUTES COUNTY
1206	422535.65	3305142.81	3256.70	2" ALUMINUM CAP, DESCHUTES COUNTY
1207	422510.16	3305186.35	3255.92	2" ALUMINUM CAP, DESCHUTES COUNTY

FOUND MONUMENTS TABLE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1208	422714.56	3304673.01	3256.26	2" ALUMINUM CAP, DESCHUTES COUNTY
1209	422841.12	3304601.54	3256.54	2" ALUMINUM CAP, DESCHUTES COUNTY
1210	422868.76	3304601.35	3257.18	5/8" IRON ROD, NO CAP
1211	423279.39	3304540.90	3275.35	1/2" IRON ROD, POE
1212	422929.94	3304428.93	3255.68	1/2" IRON ROD, POE
1213	422929.61	3304201.07	3253.07	1/2" IRON ROD, POE
1214	422930.32	3304084.08	3251.47	5/8" IRON ROD
1215	422928.64	3304313.47	3255.03	3/8" IRON ROD
1216	422930.46	3303966.76	3251.28	1/2" IRON ROD
1217	422930.48	3303850.61	3251.18	1/2" IRON ROD
1218	422930.58	3303733.90	3250.82	1/2" IRON ROD
1219	422869.81	3304139.64	3251.09	2" ALUMINUM CAP, DESCHUTES COUNTY

PARAMETRIX CONTROL TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1020	422430.50	3305177.41	3256.24	SET 5/8" IRON ROD WITH 2.5" ALUMINUM CAP 'PARAMETRIX'
1021	422859.72	3305119.24	3262.76	SET 5/8" IRON ROD WITH 2.5" ALUMINUM CAP 'PARAMETRIX'
1022	423126.62	3304595.12	3265.47	SET 5/8" IRON ROD WITH 2.5" ALUMINUM CAP 'PARAMETRIX'
1023	422774.77	3304558.46	3255.84	SET 5/8" IRON ROD WITH 2.5" ALUMINUM CAP 'PARAMETRIX'
1024	422924.42	3303864.47	3250.62	SET 5/8" IRON ROD WITH 2.5" ALUMINUM CAP 'PARAMETRIX'

CONTROL POINTS & MONUMENTS

N.T.S.

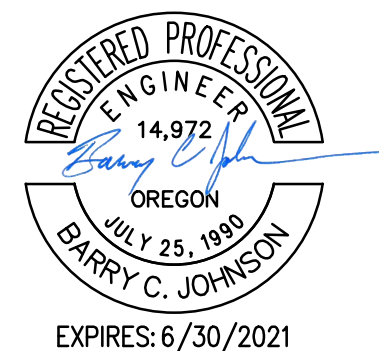


ODOT STD DWG INDEX	
RD 100	MAILBOX SUPPORT
RD 300	TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS
RD 317	CULVERT EMBANKMENT PROTECTION AND RIP RAP PADS
RD 364	CONCRETE INLETS
RD 700	CURBS
RD 810	BARBED AND WOVEN WIRE FENCE
RD 1040	SEDIMENT FENCE
TM 200	SIGN INSTALLATION DETAILS
TM 201	MISCELLANEOUS SIGN PLACEMENT DETAILS
TM 206	SIGN BRACING DETAIL
TM 211	SIGN DETAILS US AND INTERSTATE ROUTE SHIELDS
TM 472	TRAFFIC SIGNAL JUNCTION BOX/ HAN HOLES
TM 503	PAVEMENT MARKING STANDARD DETAIL BLOCKS
TM 517	RECESSED PAVEMENT MARKERS
TM 531	TURN ARROW MARKING DETAILS
TM 539	MEDIAN AND LEFT TURN CHANNELIZATION DETAILS
TM 561	ALIGNMENT LAYOUT: LEFT TURN LANE, CENTERLINE, & MEDIANS
TM 570	TRAFFIC DELINEATORS
TM 601	MULTIPOST BREAKAWAY SIGN SUPPORT NOTES
TM 602	TRIANGULAR BASE BREAKAWAY SIGN SUPPORT DETAILS
TM 635	BREAKAWAY SIGN & LUMINAIRE SUPPORTS-SUPPORT LOCATION GUIDELINES
TM 671	3 SECOND GUST WIND SPEED MAP
TM 675	EXTRUDED ALUMINUM PANELS
TM 676	SIGN ATTACHMENTS
TM 681	PERFORATED STEEL SQUARE TUBE (PSST) SIGN SUPPORT INSTALLATION
TM 688	PERFORATED STEEL SQUARE TUBE (PSST) SLIP BASE FOUNDATION
TM 820	TEMPORARY BARRICADES
TM 821	TEMPORARY SIGN SUPPORTS
TM 822	TEMPORARY SIGN SUPPORTS
TM 840	CLOSURE DETAILS
TM 841	INTERSECTION WORK ZONE DETAILS
TM 850	2-LANE, 2-WAY ROADWAYS

PATH: U:\Bene\Projects\Clients\2509-Deschutes County\297-2509-005_GBRH_Design_Phase\99Svcs\CADD\TUMALO RD RBAs\CD\S\Tumalo rd-Tumalo pl
 LAYOUT: C1.1 GENERAL NOTES
 PLOTTED BY: ricedov DATE: Wednesday, September 2, 2020 10:15:10 AM

REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
 FILE NAME: BE2509005-C1.1-NT00
 JOB No: 297-2509-005
 DATE: 05/2020

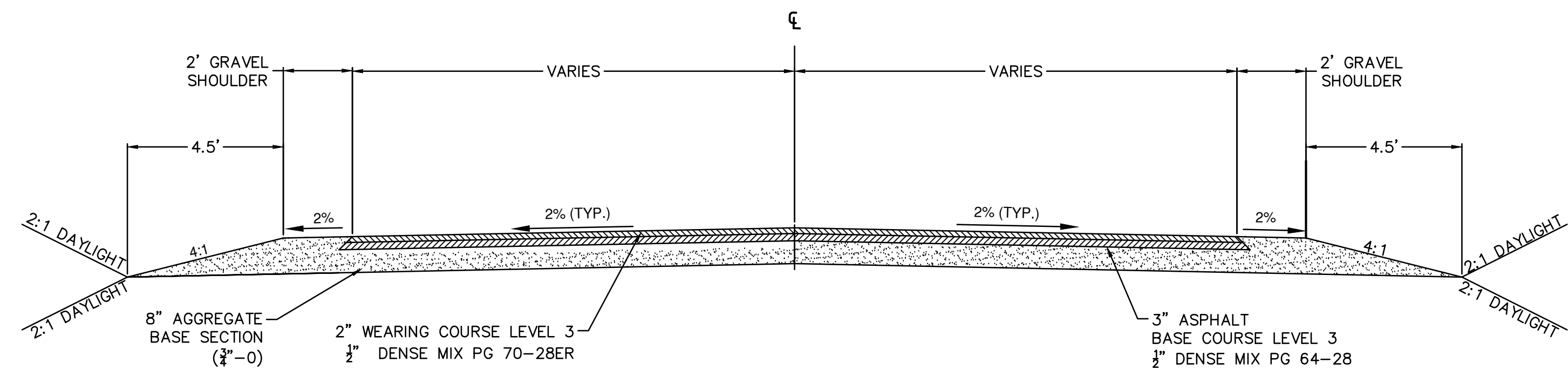


PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

GENERAL NOTES

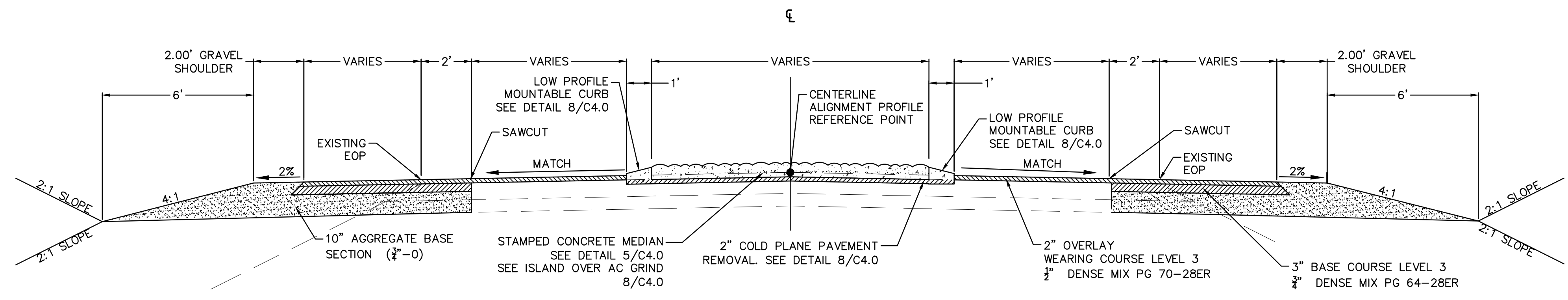
DRAWING NO.
 2 OF 40
C1.1

LAYOUT: C2.1 TYPICAL SECTIONS
 PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005 OBPH Design Phase\99Sves\CADD\DWG\TUMALO RD RBAs\CD\S\tumalo rd-tumalo pl
 PLOTTED BY: riccody DATE: Wednesday, September 2, 2020 11:52:47 AM



ROADWAY NO MEDIAN/CURB
SCHOOL ACCESS STA: 10+98-14+10
78TH STREET STA: 6+00-6+55
 N.T.S.

1
 C2.1



WIDENING SECTION
TUMALO PL STA: 4+30.4-STA: 8+50.4
TUMALO RD STA: 387+31.2-392+48.25
 N.T.S.

2
 C2.1

REVISIONS	DATE	BY	DESIGNED
			DRAWN
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY
 FILE NAME
 BE2509005-C2.1-TS00
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 DATE
 05/2020

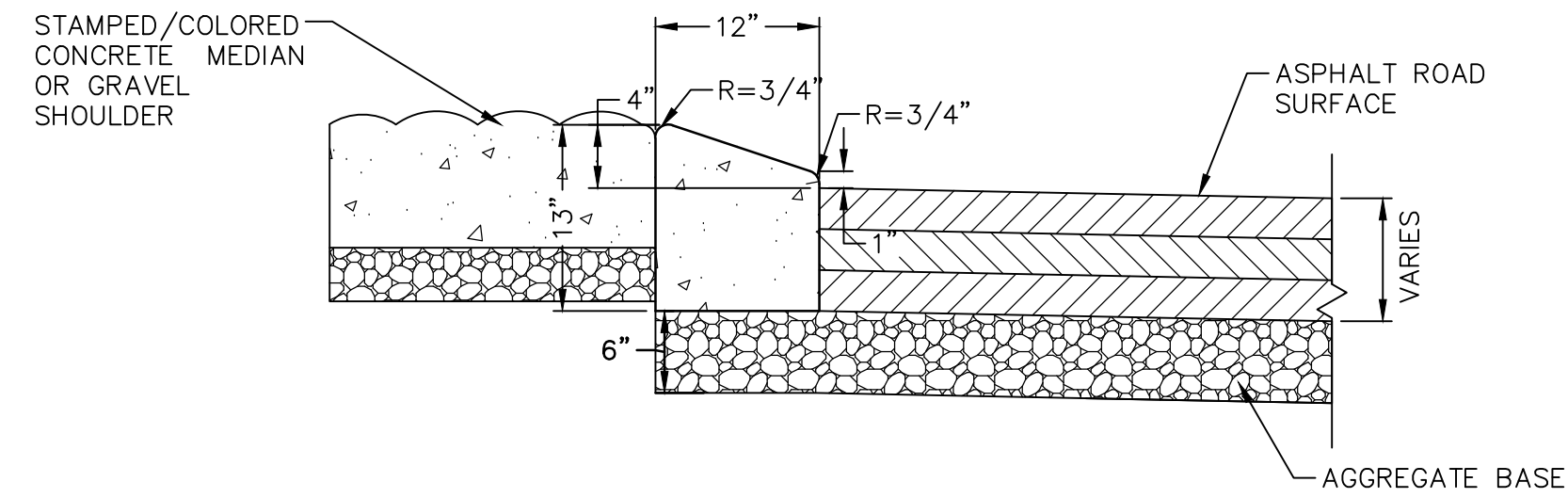


PROJECT NAME
**TUMALO RD / TUMALO PL
 INTERSECTION IMPROVEMENTS**

TYPICAL SECTIONS

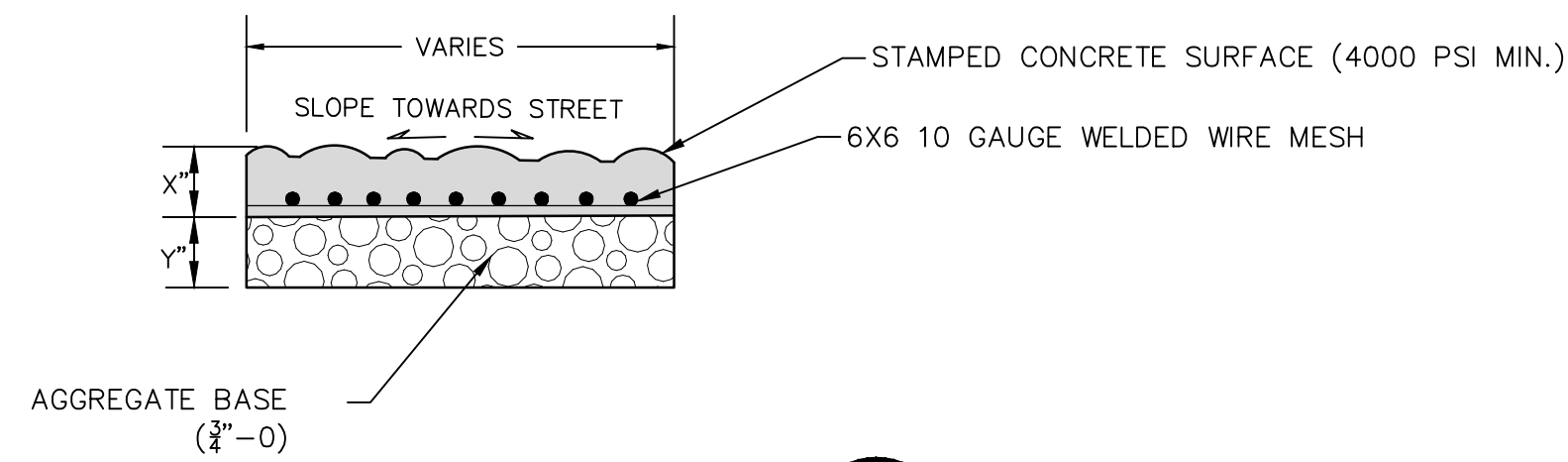
DRAWING NO.
 ---- OF 40
C2.1

LAYOUT: C4.0 DETAILS
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 PLOTTED BY: ricodav DATE: Wednesday, September 2, 2020 10:47:18 AM



LOW PROFILE MOUNTABLE CURB
 N.T.S. **1**
C4.0

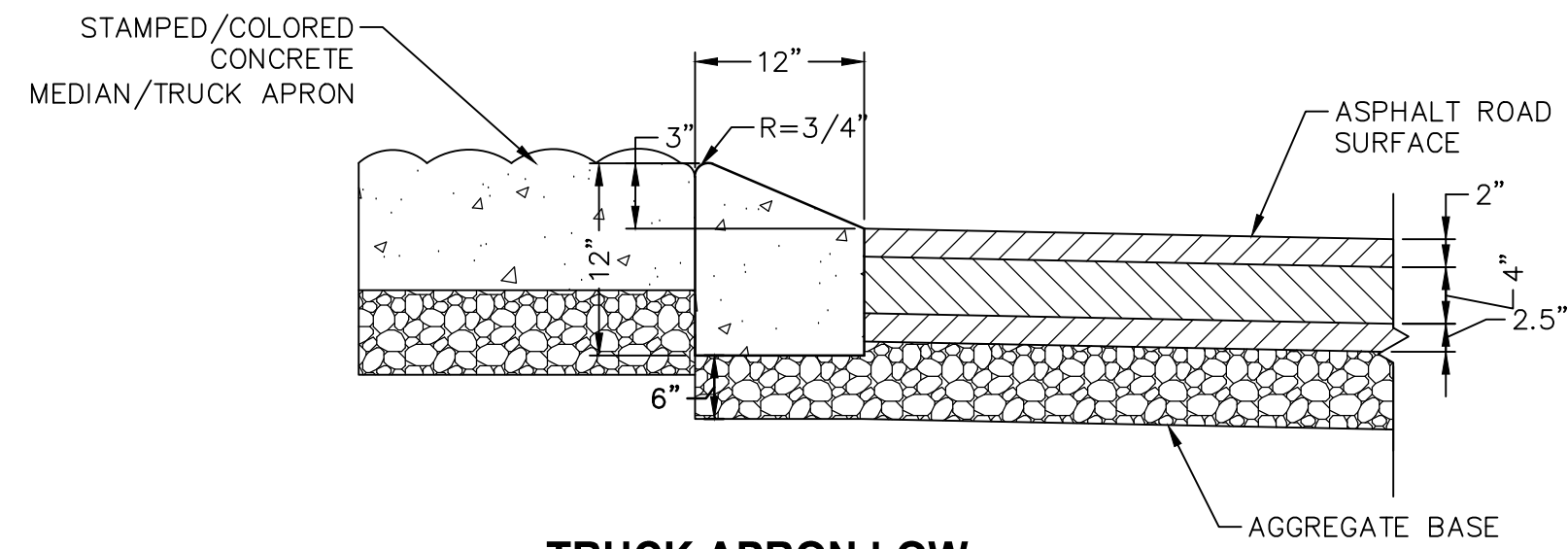
NOTES:
 1. REFERENCE ODOT DWG RD700
 2. ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



STAMPED CONCRETE
 N.T.S. **5**
C4.0

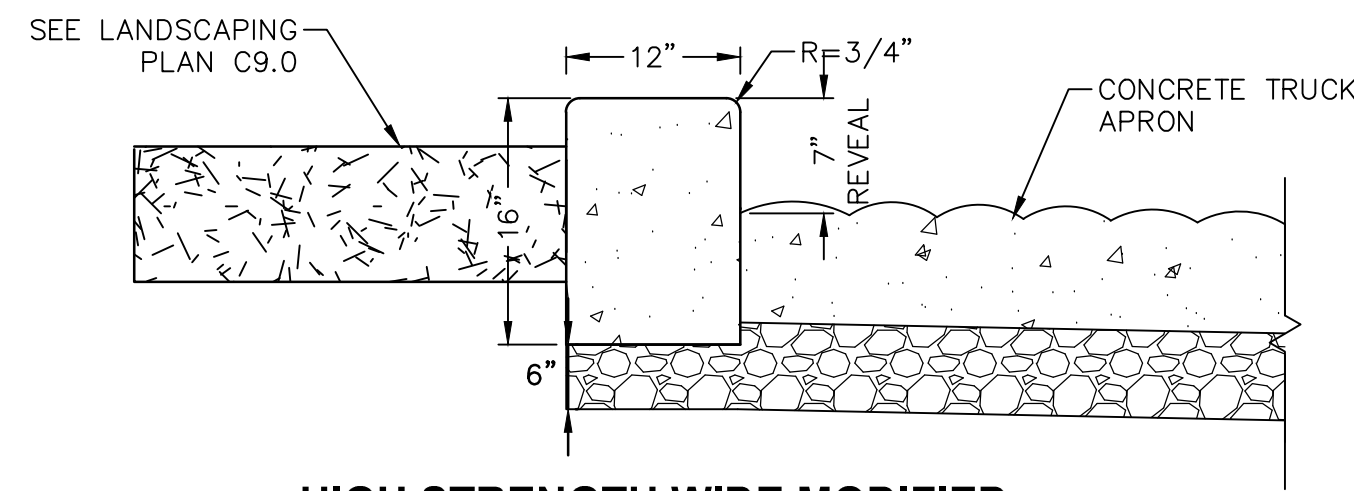
X DIMENSION:
 - MEDIAN = 6"
 - TRUCK APRON = 8"

 Y DIMENSION:
 - MEDIAN = 6"
 - TRUCK APRON = 6"



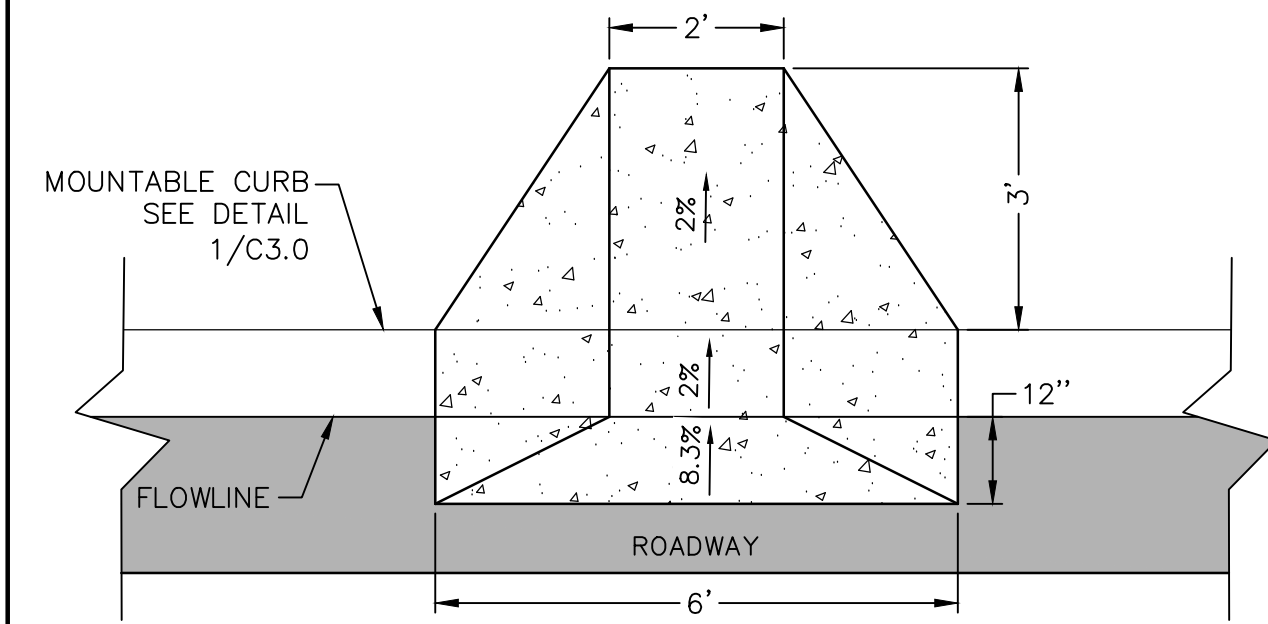
TRUCK APRON LOW PROFILE MOUNTABLE CURB
 N.T.S. **2**
C4.0

NOTES:
 1. REFERENCE ODOT DRG RD700
 2. ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT

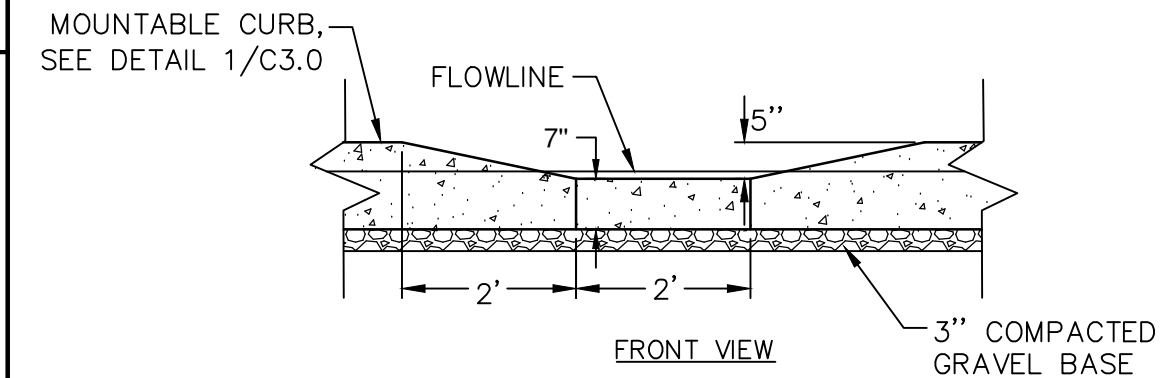


HIGH STRENGTH WIDE MODIFIED CURB INNER CURB
 N.T.S. **6**
C4.0

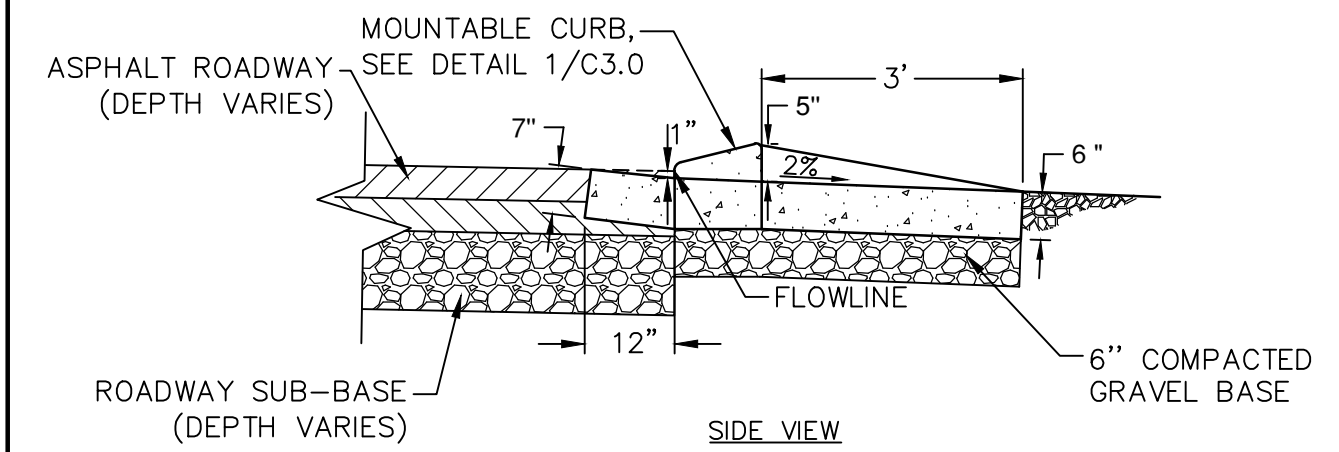
NOTE: CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



TOP VIEW



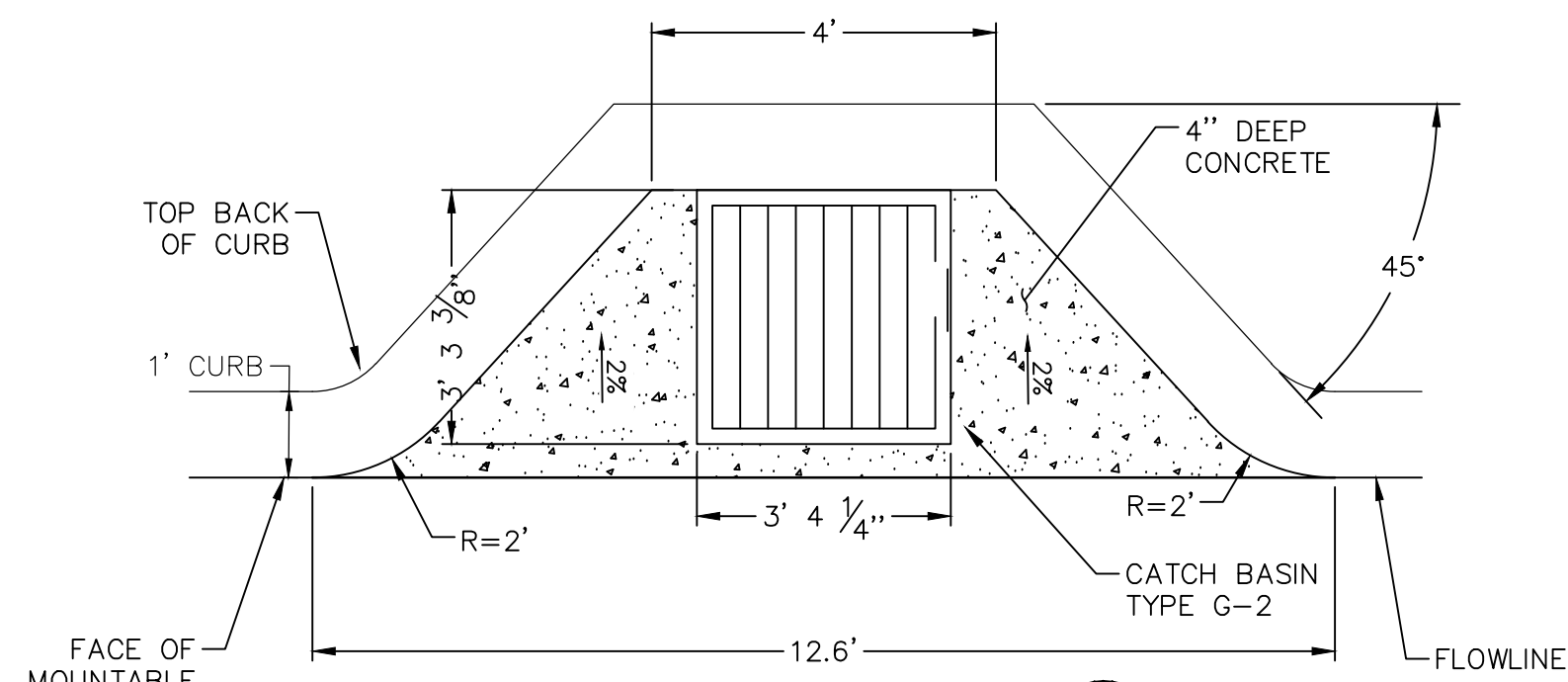
FRONT VIEW



SIDE VIEW

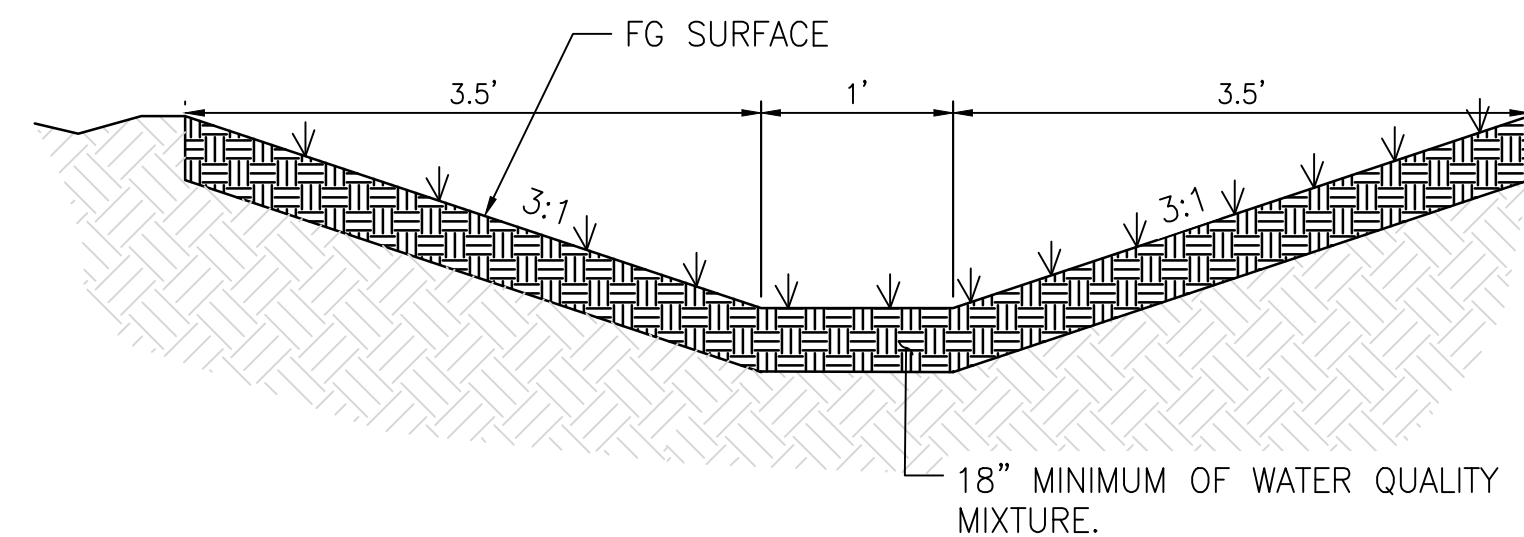
CURB CUT
 N.T.S. **9**
C4.0

NOTE: ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT

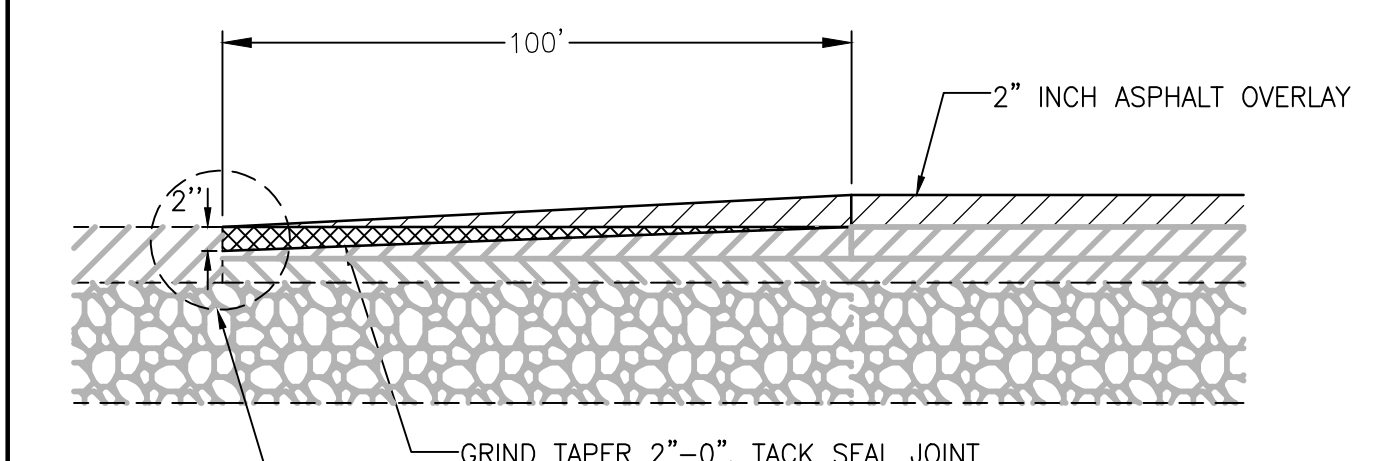


STORM INLET
 N.T.S. **3**
C4.0

NOTE: ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT

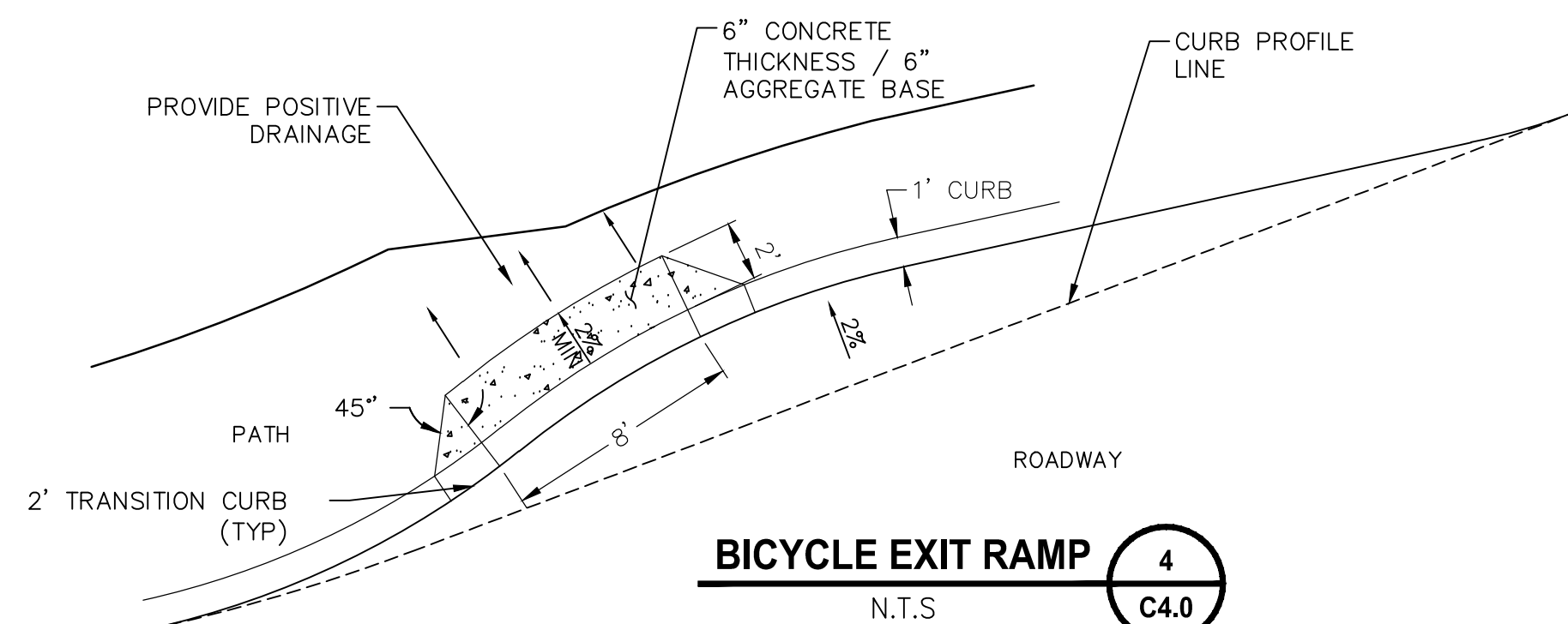


WATER QUALITY SWALE SECTION DETAIL
 N.T.S. **7**
C4.0



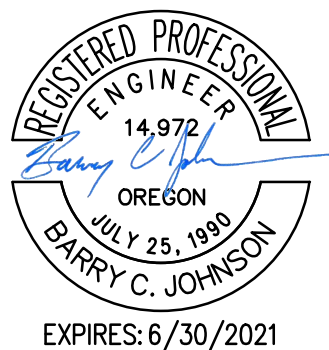
GRIND TAPER
 N.T.S. **10**
C4.0

NOTE: ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



BICYCLE EXIT RAMP
 N.T.S. **4**
C4.0

NOTE: ALL CONCRETE SHALL BE 5000 PSI HIGH STRENGTH WITH FIBER REINFORCEMENT



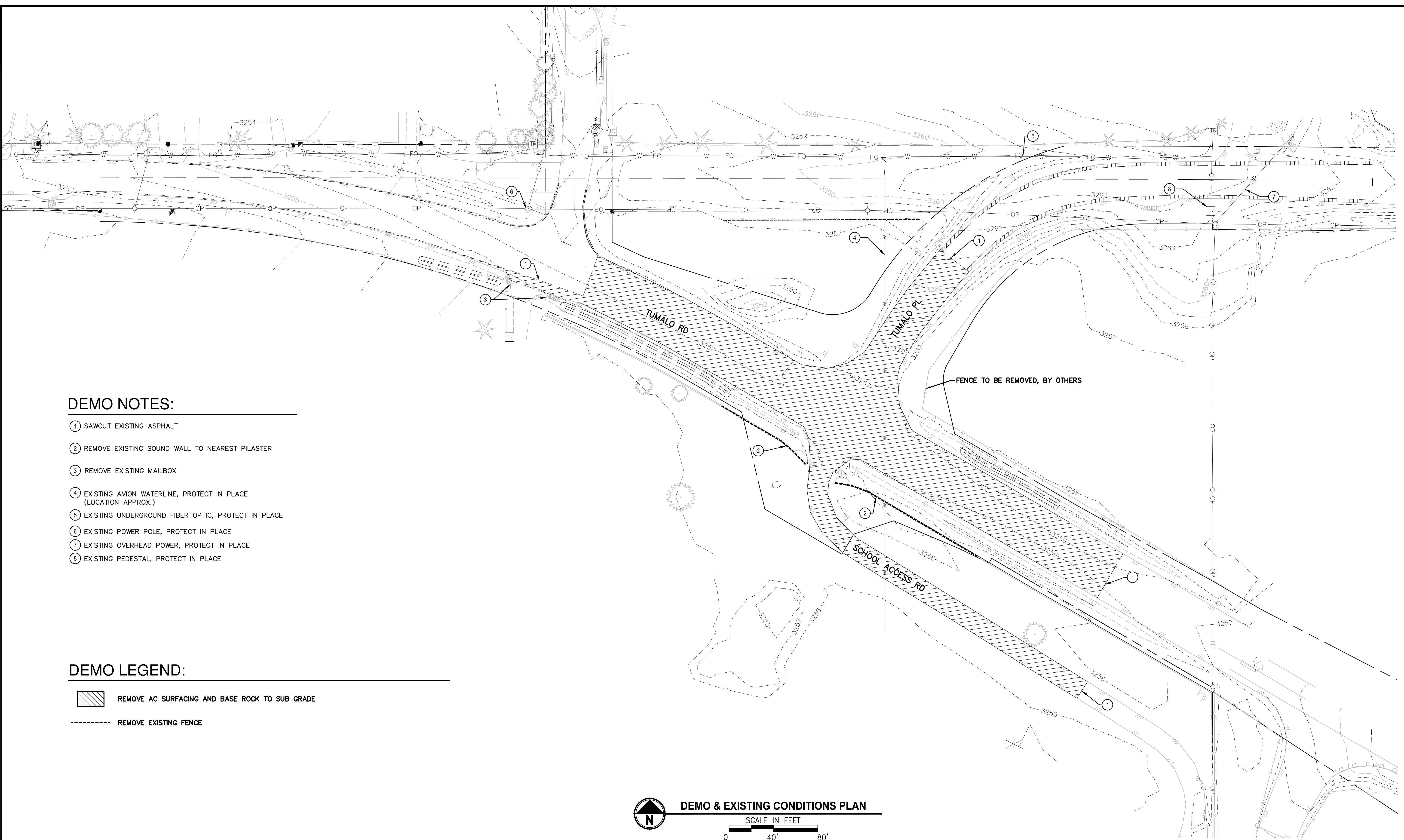
PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

DRAWING NO.
 6 OF 40
C4.0

REVISIONS	DATE	BY	DESIGNED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY. FILE NAME BE2509005-C4.0-DT00 JOB No. 297-2509-005 DATE 05/2020

LAYOUT: C5.0 DEMO
 PATH: U:\Bent\Projects\Clients\2509-005 OBPH Design Phase\99Svcs\CADD\DWG\TUMALO RD_RBA4\CD\S\Tumalo rd-Tumalo.pl
 PLOTTED BY: ricodov DATE: Wednesday, September 2, 2020 10:57:25 AM



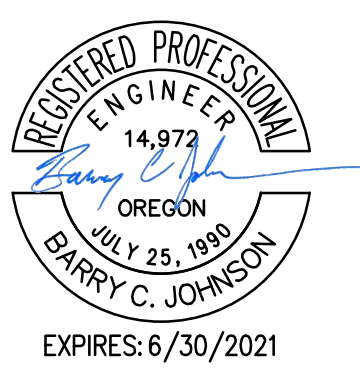
DEMO NOTES:

- ① SAWCUT EXISTING ASPHALT
- ② REMOVE EXISTING SOUND WALL TO NEAREST PILASTER
- ③ REMOVE EXISTING MAILBOX
- ④ EXISTING AVION WATERLINE, PROTECT IN PLACE (LOCATION APPROX.)
- ⑤ EXISTING UNDERGROUND FIBER OPTIC, PROTECT IN PLACE
- ⑥ EXISTING POWER POLE, PROTECT IN PLACE
- ⑦ EXISTING OVERHEAD POWER, PROTECT IN PLACE
- ⑧ EXISTING PEDESTAL, PROTECT IN PLACE

DEMO LEGEND:

- REMOVE AC SURFACING AND BASE ROCK TO SUB GRADE
- REMOVE EXISTING FENCE

DEMO & EXISTING CONDITIONS PLAN
 SCALE IN FEET



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 ENGINEERING · PLANNING · ENVIRONMENTAL SCIENCES

PROJECT NAME
**TUMALO RD / TUMALO PL
 INTERSECTION IMPROVEMENTS**

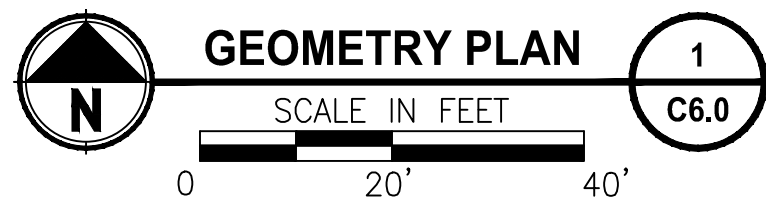
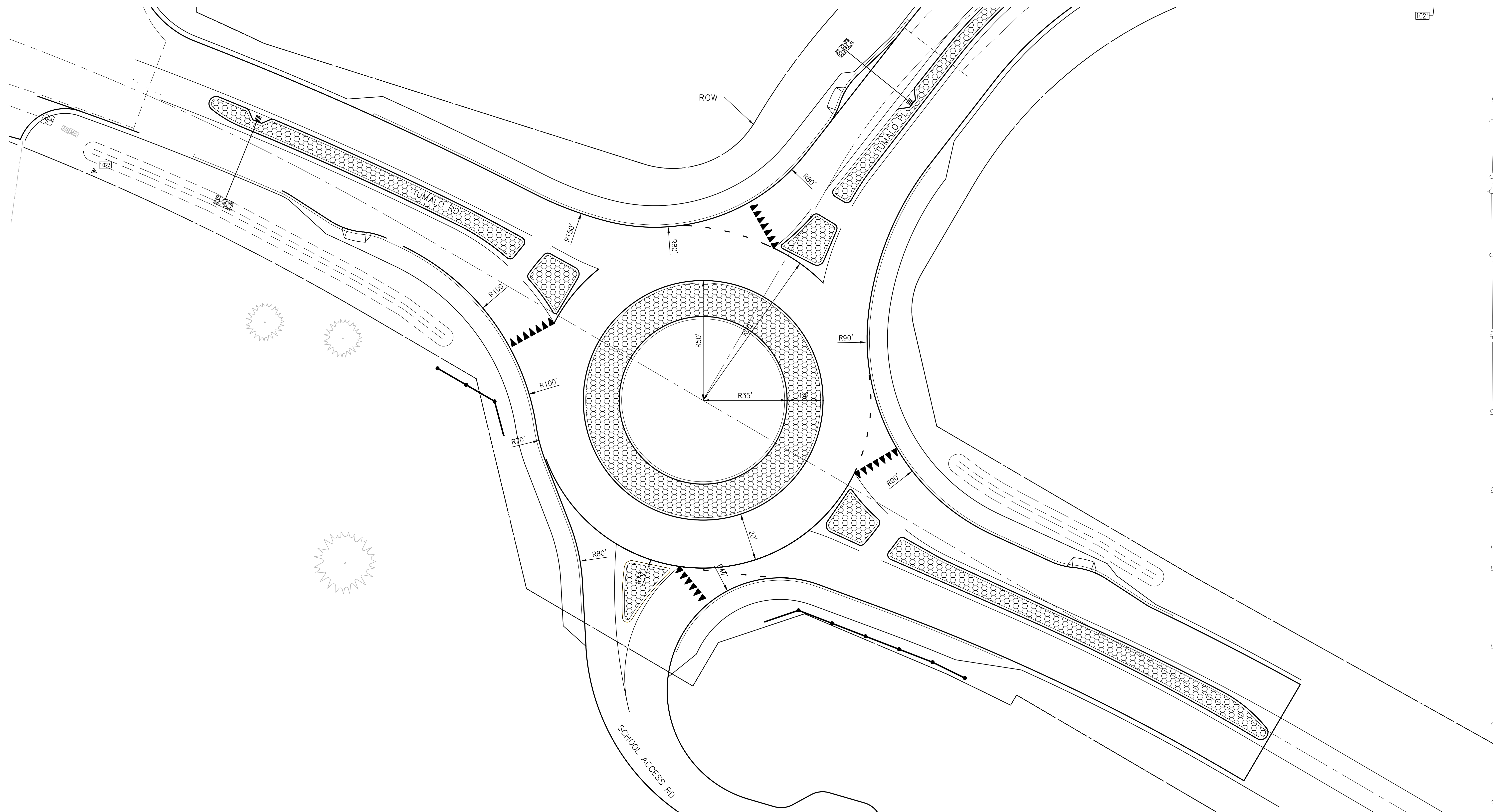
DEMO & EXISTING CONDITIONS PLAN

DRAWING NO.
 # OF 40
C5.0

REVISIONS	DATE	BY	DESIGNED DR
			DRAWN DR/LYF
			CHECKED
			APPROVED

**ONE INCH AT FULL SCALE.
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 FILE NAME
 BE2509005-C5.0-DE
 JOB No.
 297-2509-005
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LAYOUT: C6.0 GEOMETRY PLAN PATH: U:\Bent\Projects\Clients\2509-Deschutes County\2509-005 OBRH Design Phase\CADD\DWG\TUMALO RD_RBAAs\CD\S\Tumalo rd-Tumalo pl PLOTTED BY: rcodev DATE: Wednesday, September 2, 2020 10:55:03 AM

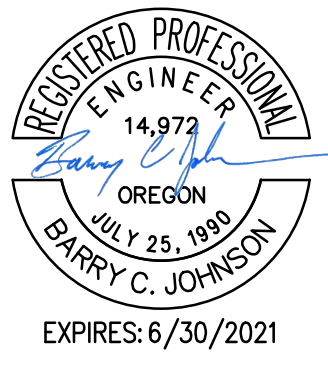


GEOMETRY PLAN

SCALE IN FEET

REVISIONS	DATE	BY	DESIGNED DR
			DRAWN DR/LYF
			CHECKED
			APPROVED

**ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY**
 FILE NAME
 BE2509005-C6.1-G000
 JOB No.
 2509-005
 DATE
 05/2020



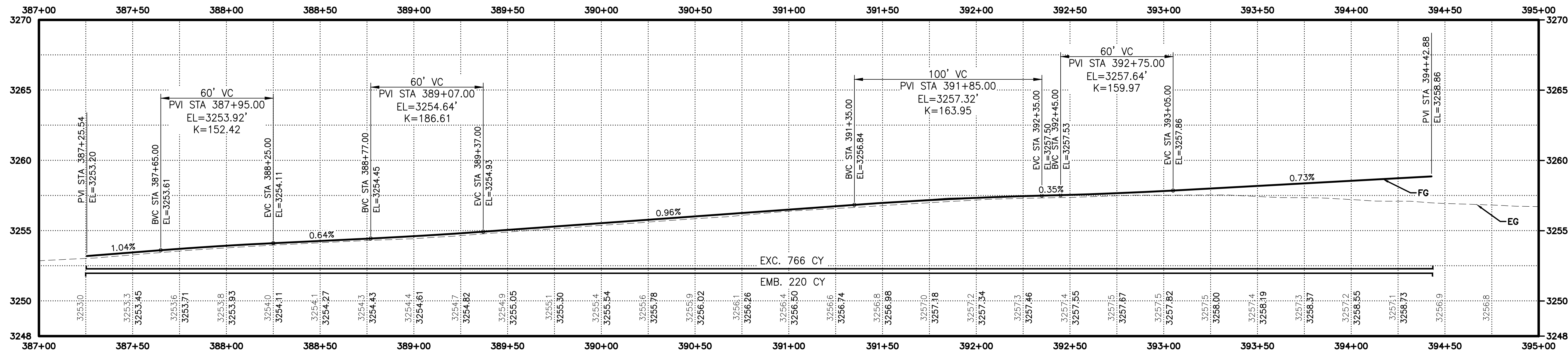
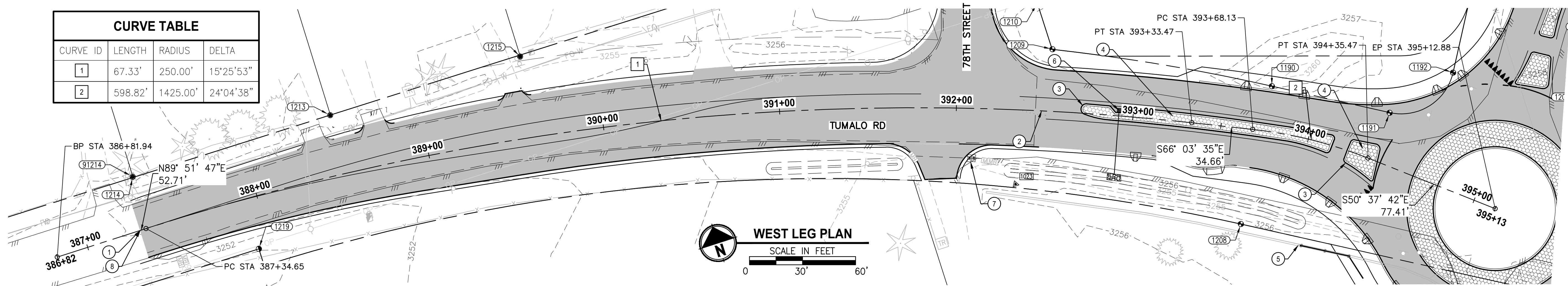
PROJECT NAME
**TUMALO RD / TUMALO PL
INTERSECTION IMPROVEMENTS**

GEOMETRY PLAN

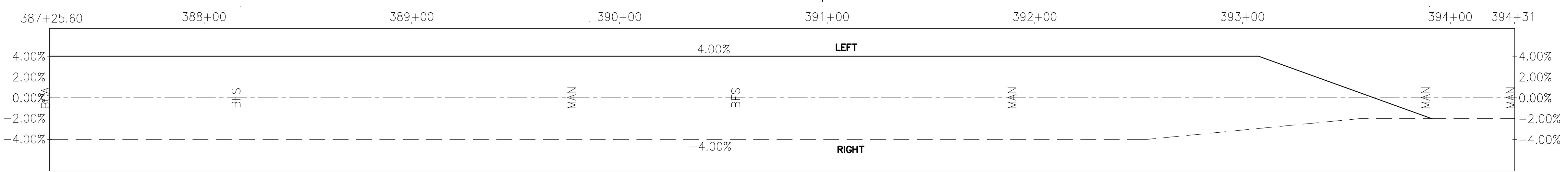
DRAWING NO.
8 OF 40
C6.0

LAYOUT: C7.0 PLAN & PROFILE PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005 OBRH Design Phase\995\cs\CD\TUMALO RD RBAs\CD\TUMALO rd-Tumalo.pl PLOTTED BY: ricardov DATE: Wednesday, September 2, 2020 4:00:47 PM

CURVE TABLE			
CURVE ID	LENGTH	RADIUS	DELTA
1	67.33'	250.00'	15°25'53"
2	598.82'	1425.00'	24°04'38"



WEST LEG PROFILE
SCALE IN FEET
0 30' 60'



WEST LEG SUPER ELEVATION GRAPH
1"=30'

ROAD CONSTRUCTION NOTES:

- 1 BEGIN ROAD CONSTRUCTION STA: 387+31.2
- 2 BEGIN FULL DEPTH CONSTRUCTION STA: 392+48.25
- 3 CONSTRUCT LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C4.0)
- 4 CONSTRUCT STAMPED COLORED CONCRETE MEDIAN (SEE DETAIL 5/C4.0)
- 5 INSTALL SOUND WALL, SEE SHEET C9.0
- 6 INSTALL ODOT TYPE G-2 INLET STA: 392+92.03, 3.1' LT PER ODOT STD DWG RD 364 RIM=3257.83, I.E. OUT = 3254.50 INSTALL 36.5 LF OF 8" DUCTIL IRON PIPE, S=0.01 FT/FT
- 7 INSTALL MAILBOX SUPPORT PER ODOT STD DWG RD 100
- 8 BEGIN 0"-2" GRIND TAPER PER 10/C4.0

REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN
			DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.
FILE NAME: BE2509005-C7.0-PP00
JOB No: 297-2509-005
DATE: 05/2020

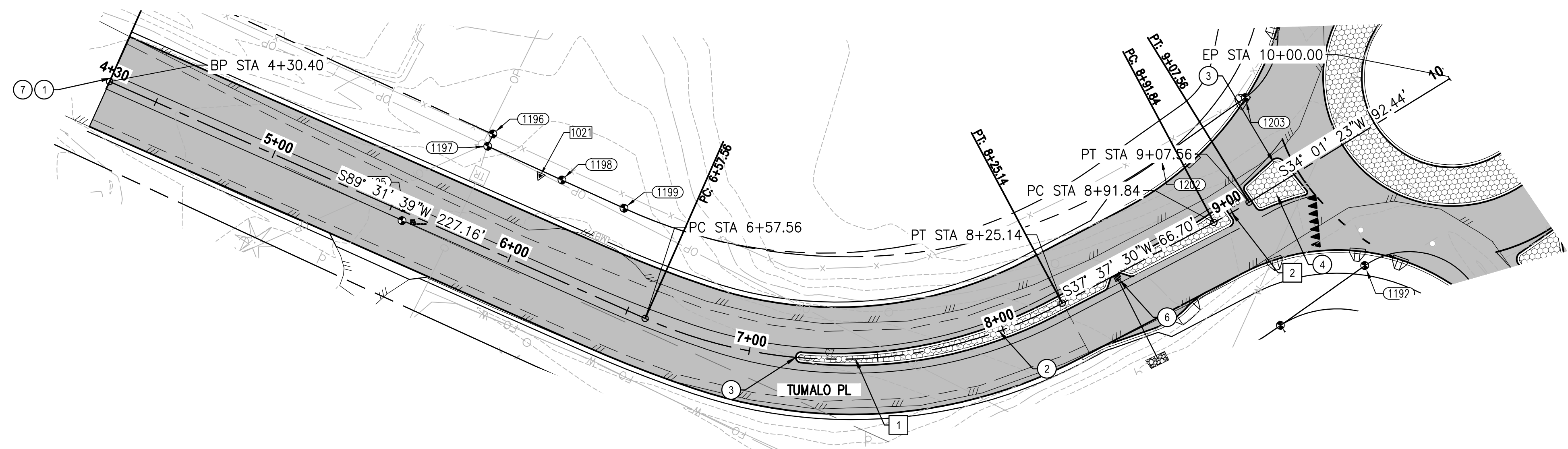


PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

WEST LEG - PLAN & PROFILE

DRAWING NO.
9 OF 40
C7.0

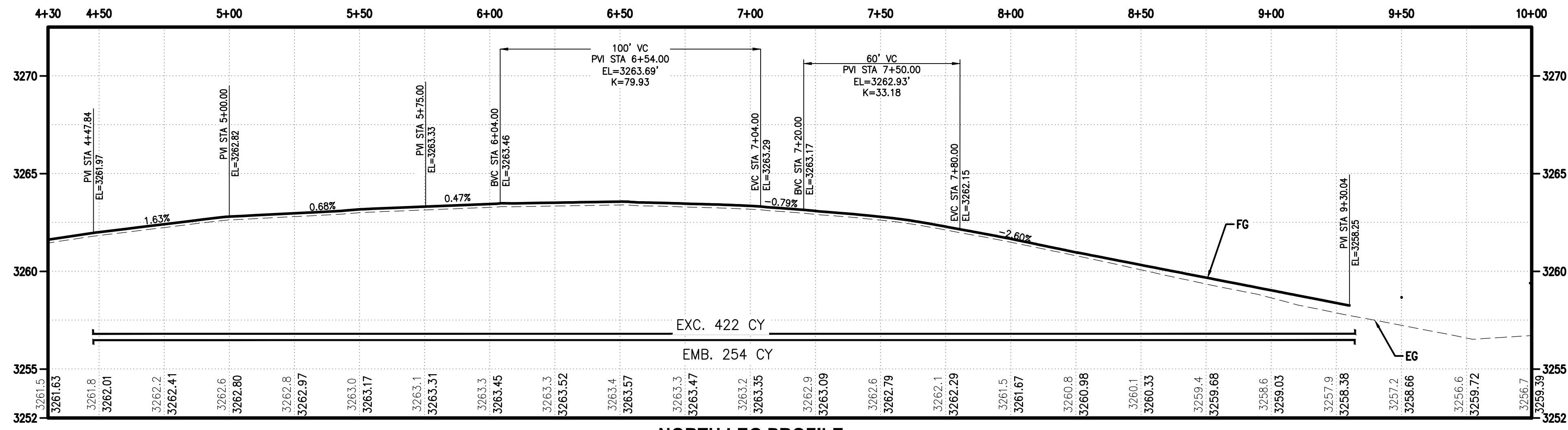
LAYOUT: C7.2 PLAN & PROFILE
 PATH: U:\Bent\Projects\Clients\2509-005 CBRH Design Phase\995\cadd\DWG\TUMALO RD\BAA\CD\TUMALO rd-Tumalo pl
 PLOTTED BY: ricodov DATE: Wednesday, September 2, 2020 3:47:40 PM



NORTH LEG PLAN
 SCALE IN FEET
 0 30' 60'

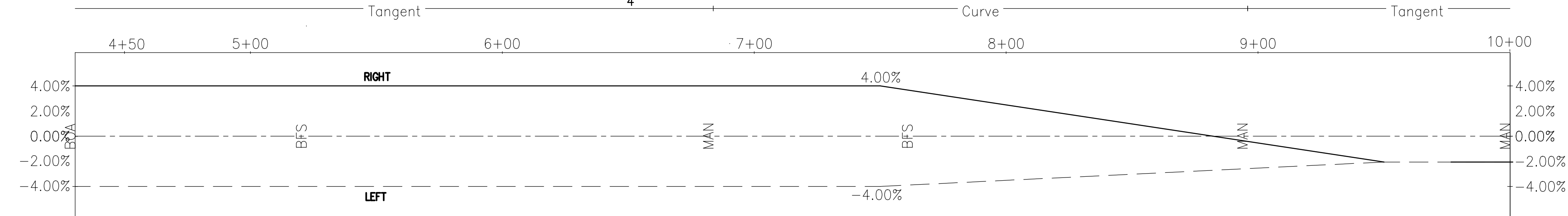
ROAD CONSTRUCTION NOTES:

- ① BEGIN ROAD CONSTRUCTION STA: 4+30.4 PER 2/C2.1
- ② BEGIN FULL DEPTH CONSTRUCTION STA: 7+98.4 PER 2/C2.1
- ③ CONSTRUCT LOW PROFILE MOUNTABLE CURB (SEE DETAIL 8/C4.0)
- ④ CONSTRUCT STAMPED COLORED CONCRETE MEDIAN (SEE DETAIL 8/C4.0)
- ⑤ INSTALL ODOT TYPE 1 FENCE PER ODOT STD DWG RD 810
- ⑥ INSTALL ODOT TYPE G-2 INLET STA: 8+48.6, 1.3RT PER ODOT STD DWG RD 364 RIM=3260.4, I.E OUT = 3257.74 INSTALL 35 LF OF 8" DUCTILE IRON PIPE, S=0.008 FT/FT
- ⑦ BEGIN 0'-2" GRIND TAPER PER 10/C4.0



NORTH LEG PROFILE
 SCALE IN FEET
 0 30' 60'

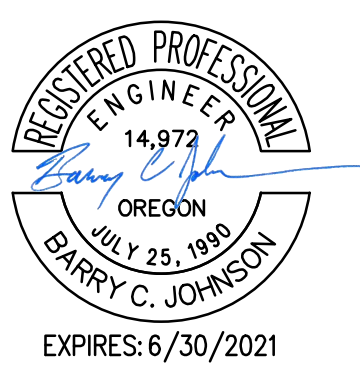
CURVE TABLE			
CURVE ID	LENGTH	RADIUS	DELTA
1	167.59'	185.00'	51°54'10"
2	15.72'	250.00'	3°36'07"



NORTH LEG SUPER ELEVATION GRAPH
 1"=30'

REVISIONS	DATE	BY	DESIGNED DR

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.
 FILE NAME: BE2509005-C7.2-PP00
 JOB No: 297-2509-005
 DATE: 05/2020

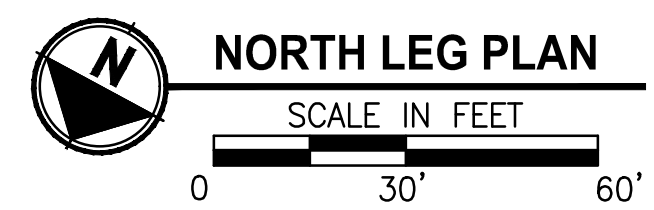


PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

NORTH LEG - PLAN & PROFILE

DRAWING NO.
 11 OF 40
C7.2

LAYOUT: C7.2.1 PLAN & PROFILE
 PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005 OBRH Design Phase\995\cs\CADD\TUMALO RD\BAs\CD\S\tumalo rd-tumalo pl
 PLOTTED BY: rickodv DATE: Wednesday, September 2, 2020 3:30:38 PM



- ROAD CONSTRUCTION NOTES:**
- ① STA: 10+69.3 BEGIN 2" COLD PLANE PAVEMENT REMOVAL FROM OUTSIDE OF FOG STRIPE TO INSIDE OF MEDIAN STRIPE
 - ② RESTRIPE PAVEMENT MARKINGS NOT DEMOLISHED

REVISIONS	DATE	BY	DESIGNED DR
			DRAWN DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY

FILE NAME
BE2509005-C7.2.1-PP00

JOB No.
297-2509-005

DATE
05/2020



PROJECT NAME

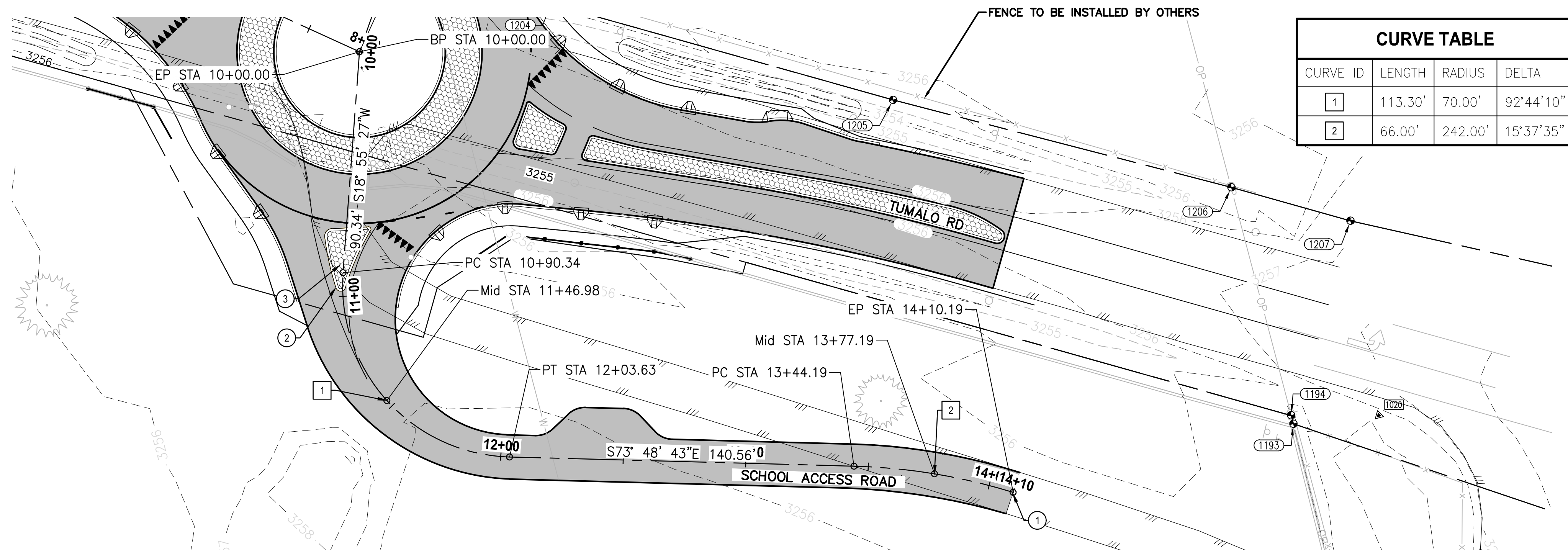
**TUMALO RD / TUMALO PL
INTERSECTION IMPROVEMENTS**

NORTH LEG COLD PLANE-PLAN

DRAWING NO.
12 OF 40

C7.2.1

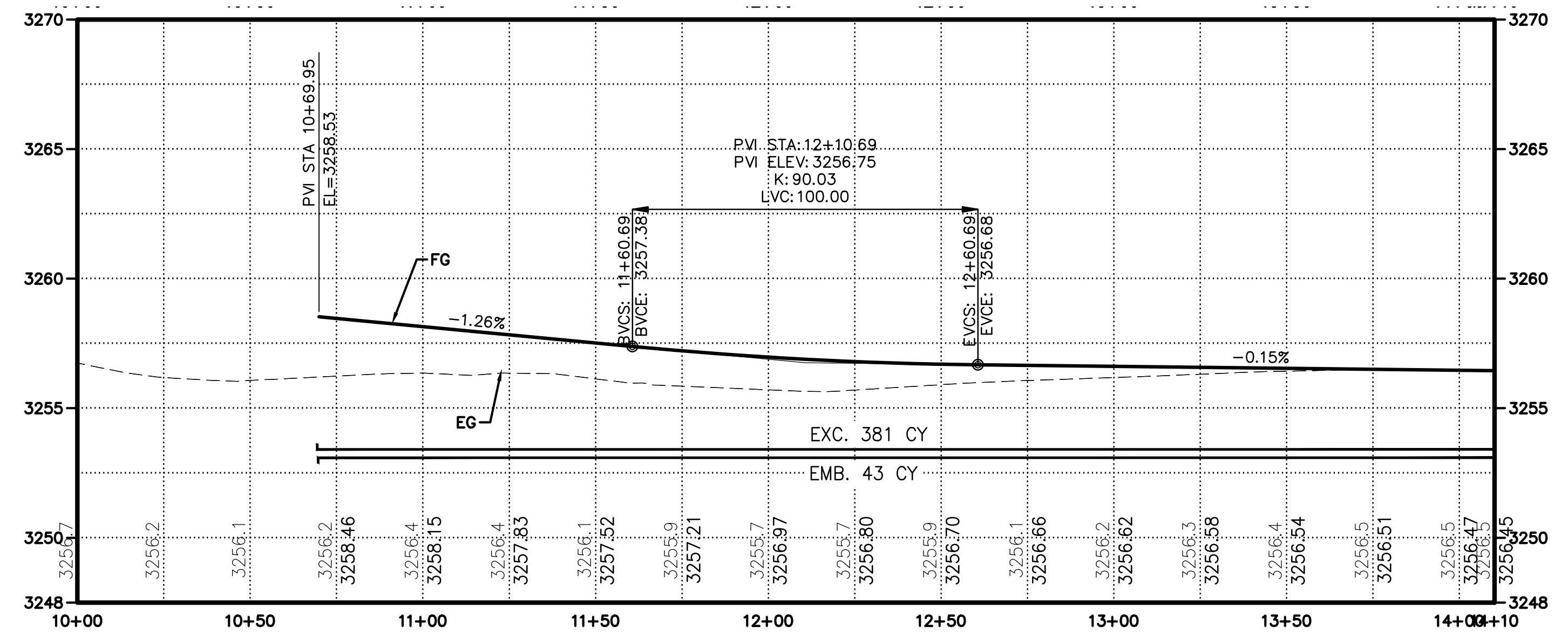
LAYOUT: C7.3 PLAN & PROFILE
 PATH: U:\Bent\Projects\Clients\2509-Dechutes County\297-2509-005 GBRH Design Phase\95\Sves\CADD\DWG\TUMALO RD RBAs\CD\S\Tumalo rd-Tumalo pl
 PLOTTED BY: rccodov DATE: Wednesday, September 2, 2020 2:53:51 PM



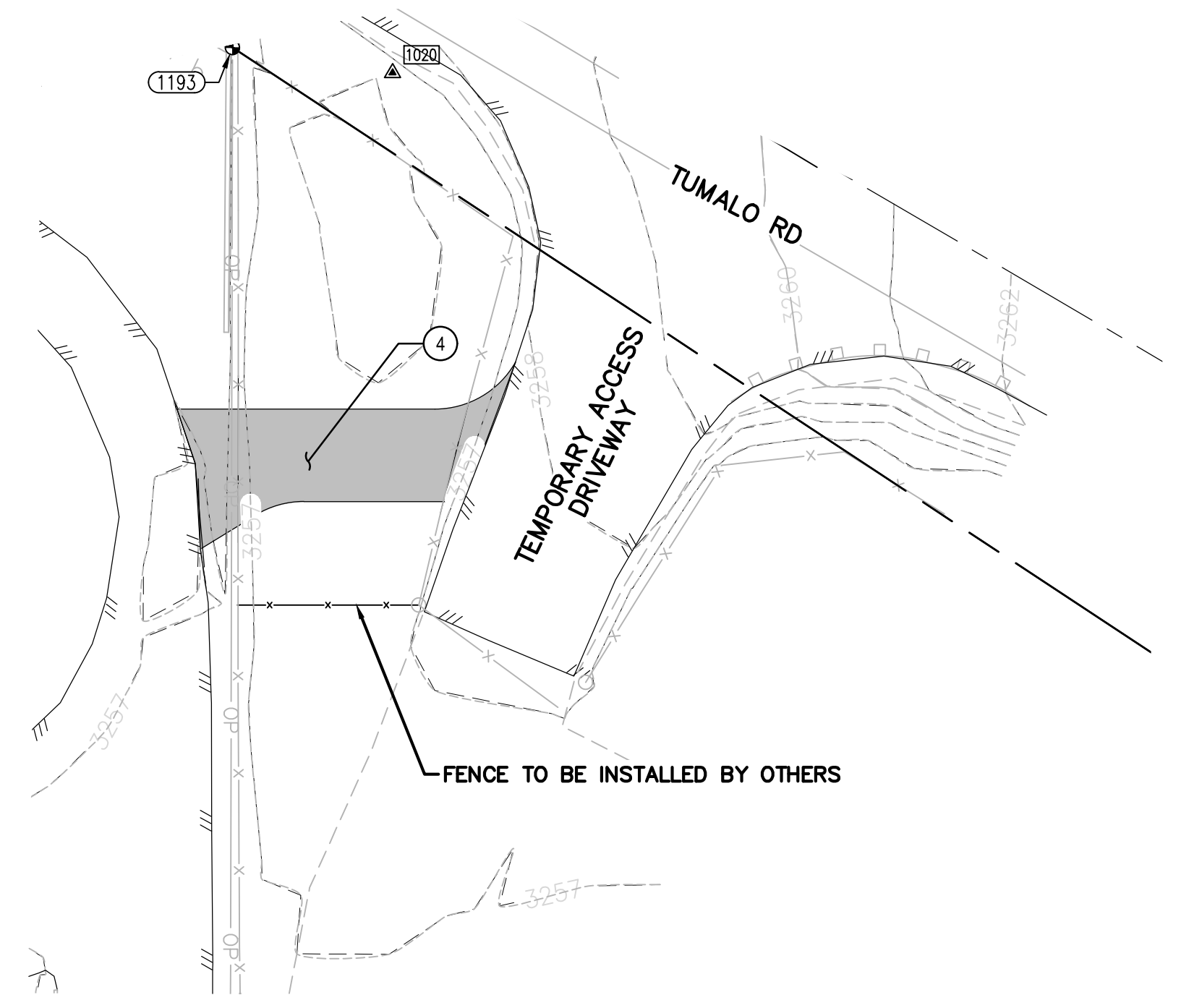
CURVE TABLE			
CURVE ID	LENGTH	RADIUS	DELTA
1	113.30'	70.00'	92°44'10"
2	66.00'	242.00'	15°37'35"

- ROAD CONSTRUCTION NOTES:**
- ① END ROAD CONSTRUCTION STA:14+10
 - ② CONSTRUCT LOW PROFILE MOUNTABLE CURB (SEE DETAIL 1/C4.0)
 - ③ CONSTRUCT STAMPED COLORED CONCRETE MEDIAN (SEE DETAIL 5/C4.0)
 - ④ CONSTRUCT TEMPORARY ACCESS ROAD 2" OF AC OVER 6" OF 3/4"-0 AGGREGATE BASE.

SOUTH LEG PLAN
SCALE IN FEET
0 30' 60'



SOUTH LEG PROFILE
SCALE IN FEET
0 30' 60'



SCHOOL ACCESS ROAD
SCALE IN FEET
0 30' 60'

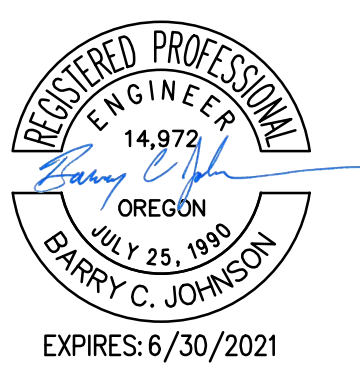
REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN
			DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

FILE NAME
BE2509005-C7.3-PP00

JOB No.
297-2509-005

DATE
05/2020



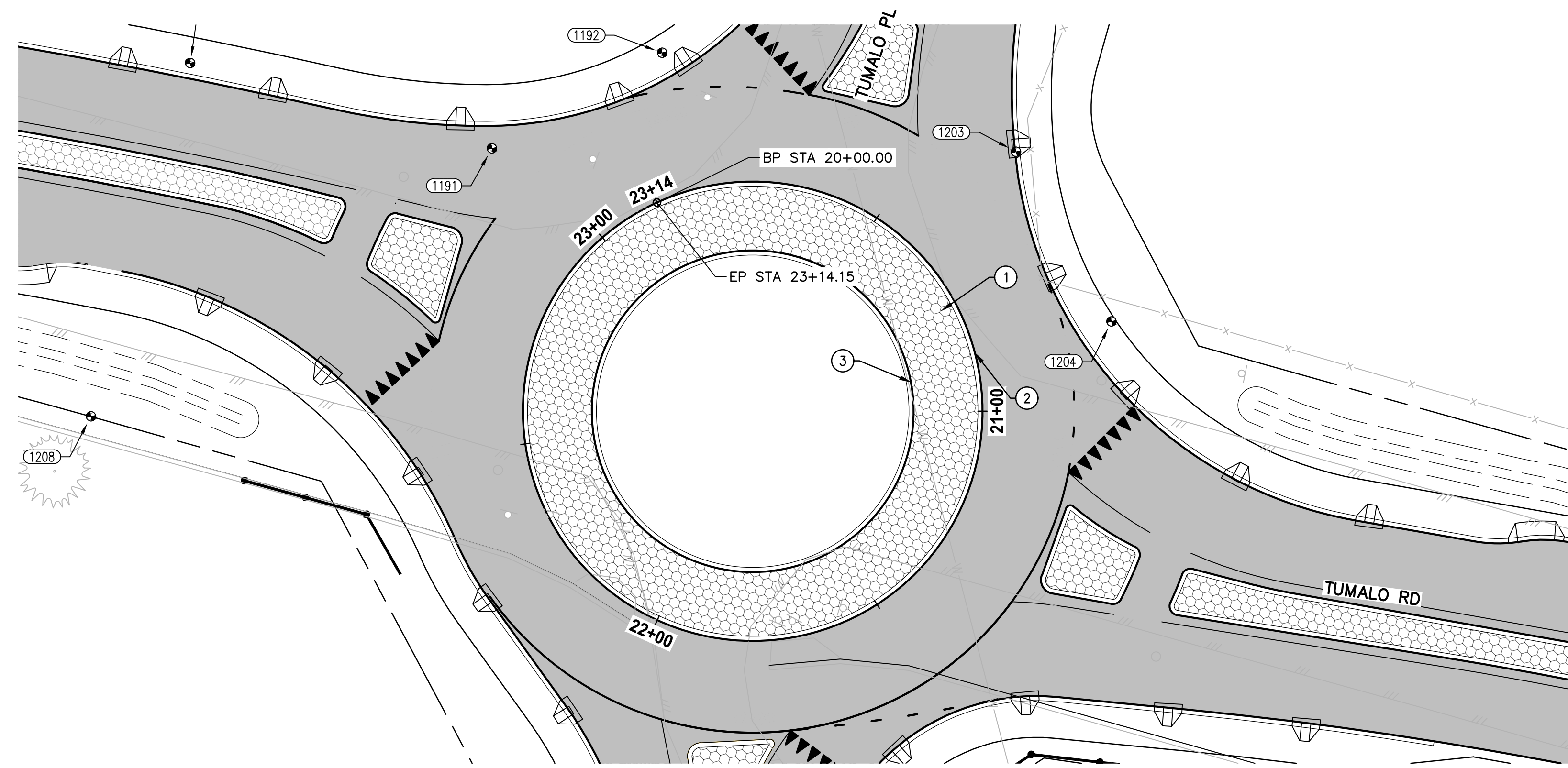
PROJECT NAME
**TUMALO RD / TUMALO PL
INTERSECTION IMPROVEMENTS**

SOUTH LEG - PLAN & PROFILE

DRAWING NO.
12 OF 40

C7.3

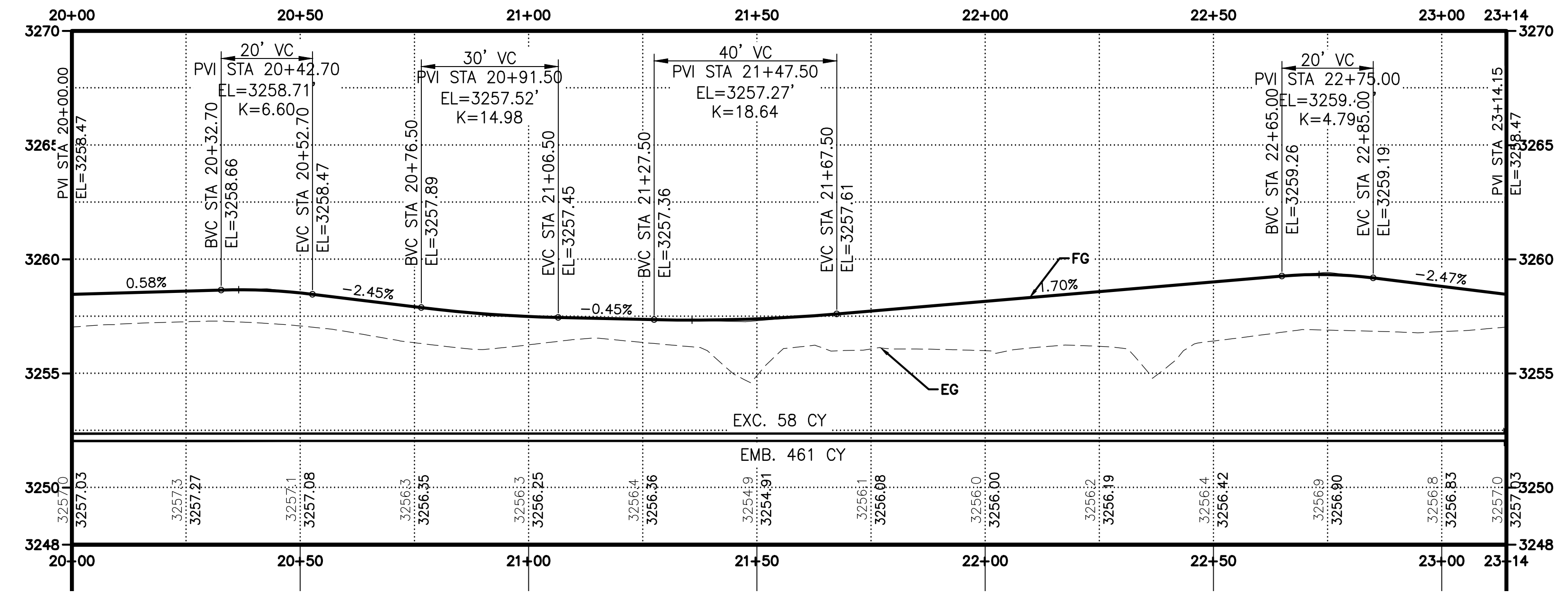
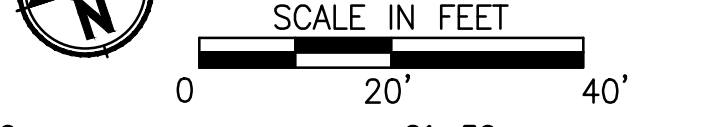
LAYOUT: C7.4 - PLAN & PROFILE
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 PLOTTED BY: rccodov DATE: Wednesday, September 2, 2020 11:16:03 AM



ROAD CONSTRUCTION NOTES:

- ① CONSTRUCT STAMPED CONCRETE TRUCK APRON
- ② CONSTRUCT TRUCK APRON LOW PROFILE MOUNTABLE CURB PER 2/C4.0
- ③ CONSTRUCT WIDE MODIFIED CURB PER 6/C4.0

INNER CIRCLE CENTERLINE PLAN



INNER CIRCLE CENTERLINE PROFILE



REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN
			DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
 FILE NAME: BE2509005-C7.4-PP00
 JOB No.: 297-2509-005
 DATE: 05/2020

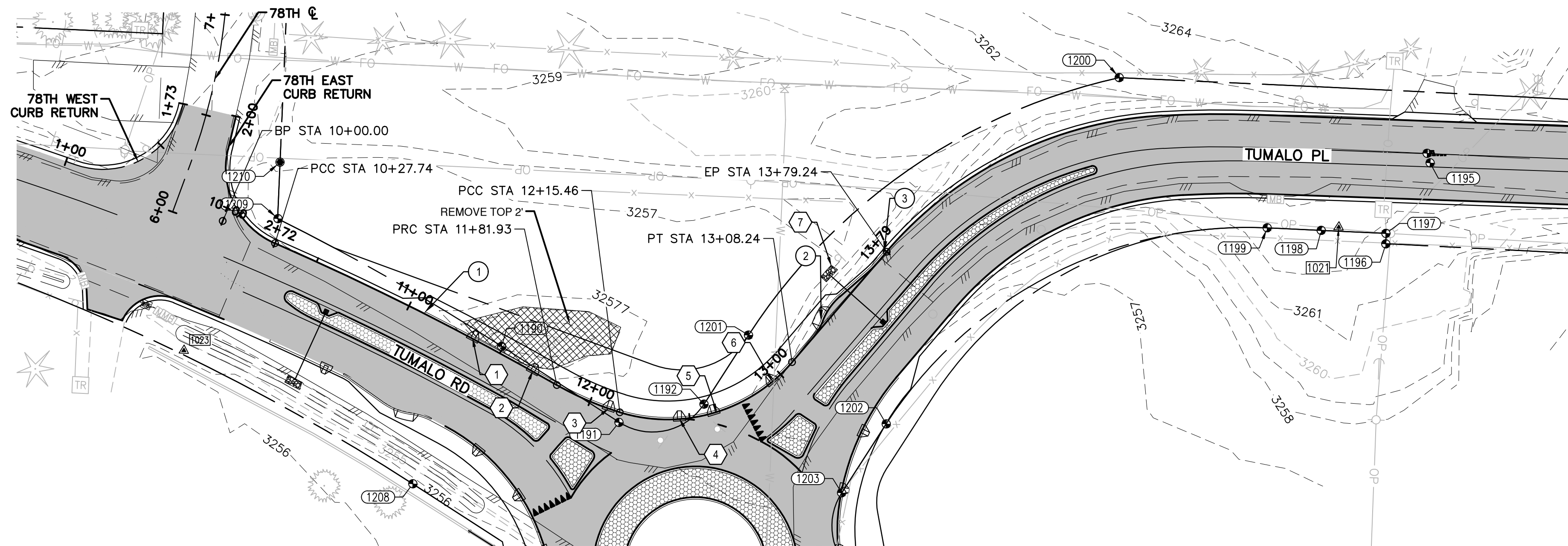


PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

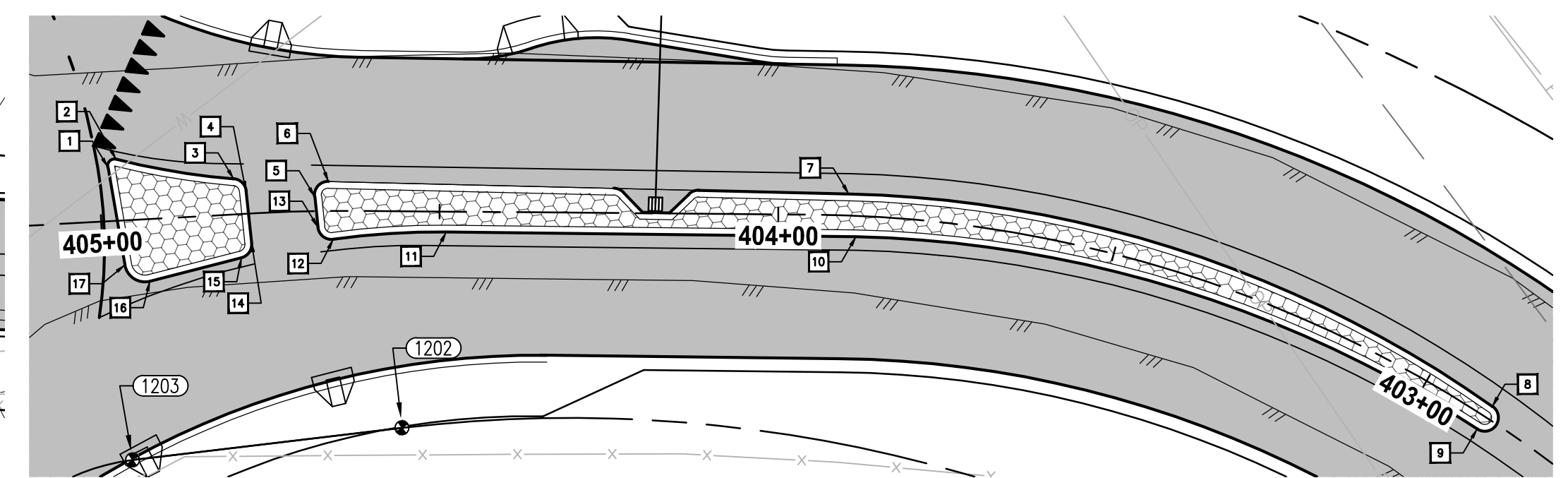
INNER CIRCLE PLAN & PROFILE

DRAWING NO.
 13 OF 40
C7.4

LAYOUT: C7.5 PLAN & PROFILE
 PATH: U:\Bent\Projects\Clients\Deschutes County\297-2509-005 GBRH Design Phase\99Sves\CADD\DWG\TUMALO RD\BAA\CD\S\Tumalo rd-Tumalo pl
 PLOTTED BY: ricodov DATE: Wednesday, September 2, 2020 3:56:47 PM



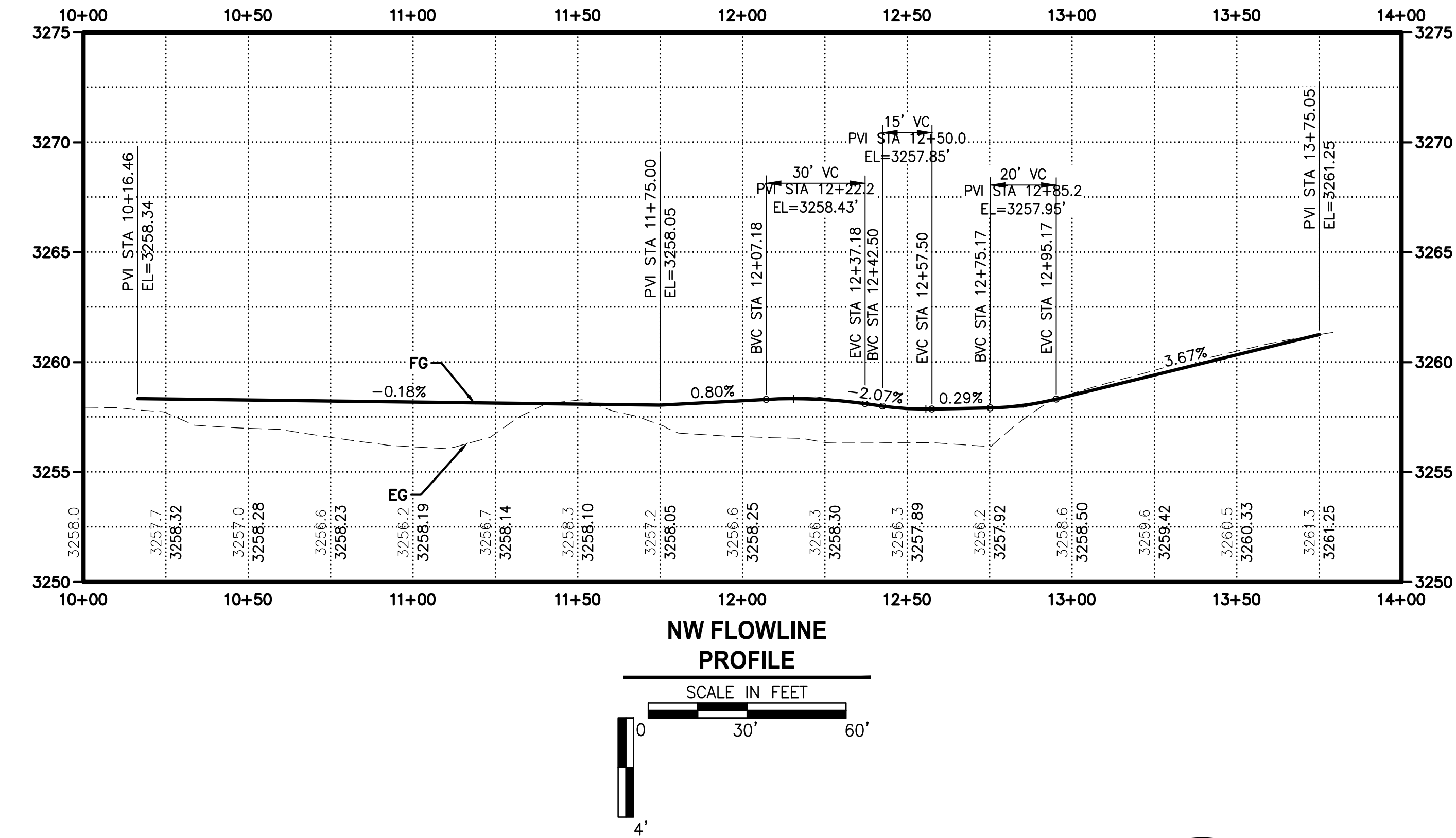
NW FLOWLINE PLAN
 SCALE IN FEET
 0 40' 80'



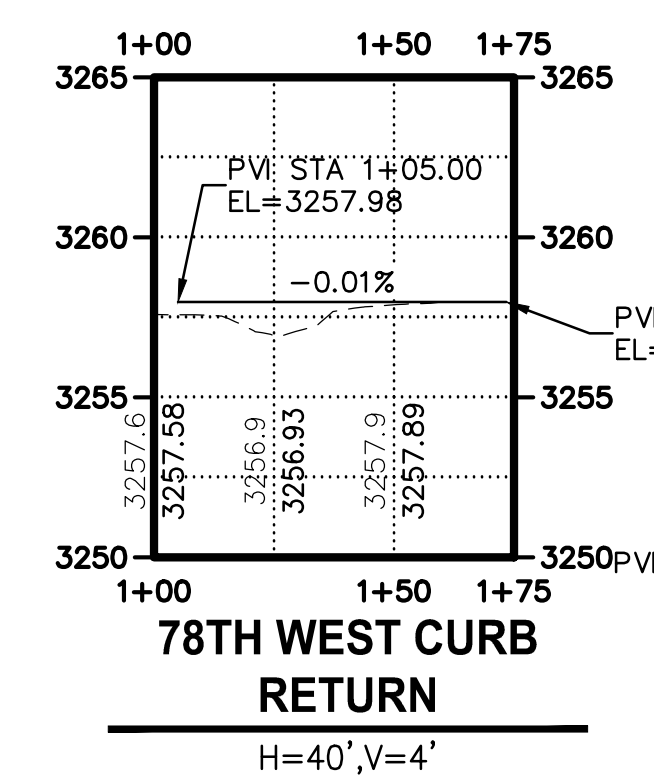
NORTH LEG - CENTER ISLAND DETAIL 2
 SCALE IN FEET
 0 20' 40'

- CONSTRUCTION NOTES:**
- 1 CONSTRUCT LOW PROFILE MOUNTABLE CONCRETE CURB PER DETAIL 1/C4.0, STA: 11+08.4
 - 2 CONSTRUCT BIKE EXIT PER SEE DETAIL 4/C4.0, STA: 13+34.20
 - 3 END LOW PROFILE MOUNTABLE CURB, STA: 13+78.5

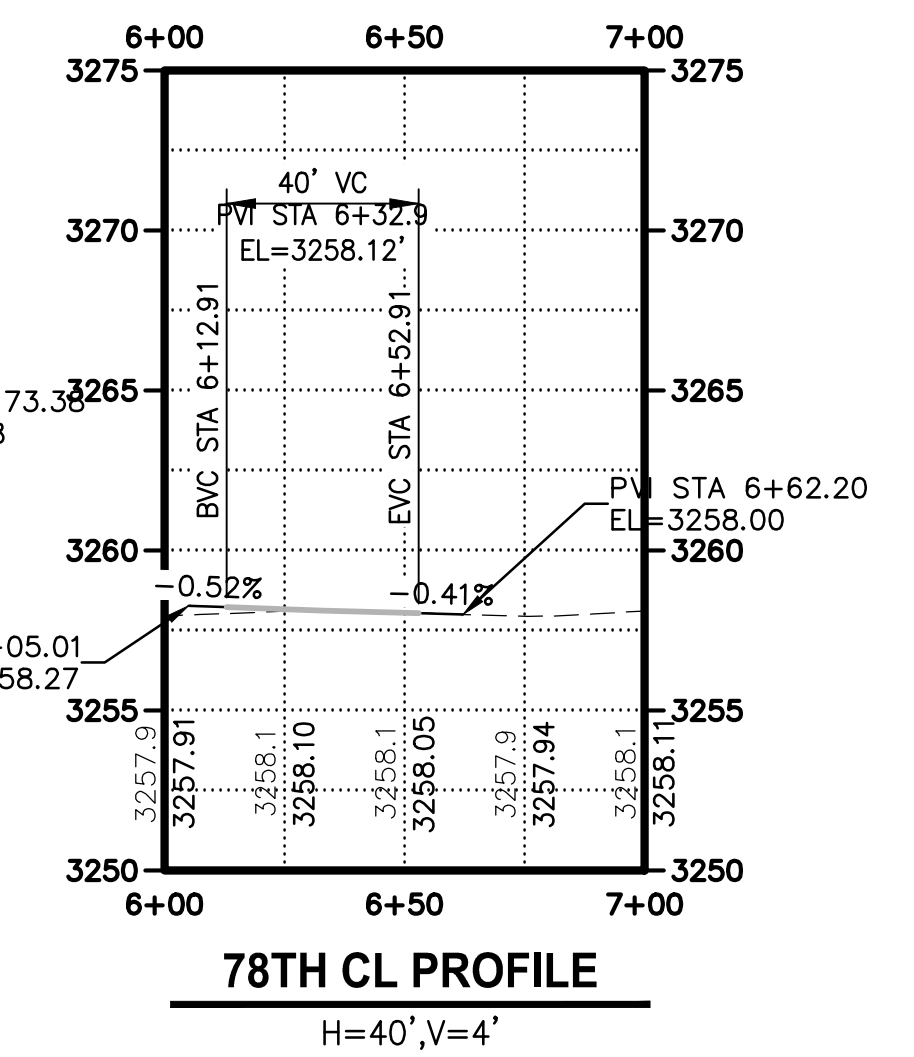
- STORM CONSTRUCTION NOTES:**
- 1 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 11+34.9
 - 2 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 11+68.3
 - 3 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 12+09.7
 - 4 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 12+45
 - 5 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 12+62.1
 - 6 INSTALL CURB CUT PER DETAIL 9/C4.0, 12+94.7
 - 7 ARMOR PIPE OUTLET WITH 1.5 CUBIC YARD OF CLASS 50 RIP RAP PER ODOT STD DWG RD 317



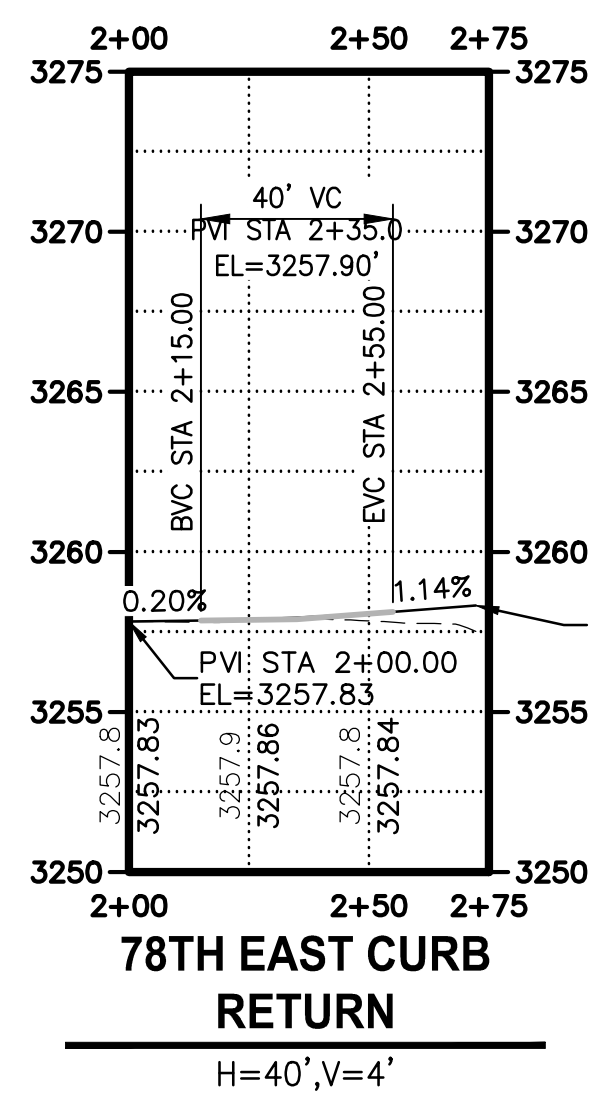
NW FLOWLINE PROFILE
 SCALE IN FEET
 0 30' 60'



78TH WEST CURB
 H=40', V=4'



78TH CL PROFILE
 H=40', V=4'



78TH EAST CURB RETURN
 H=40', V=4'

STRUCTURE TABLE				
POINT	FACE OF CURB LOCATION	FLOWLINE ELEVATION	DESC	RADIUS
1	STA 404+99/7.99 RTT	3258.24'	PC	1'
2	STA 404+97/9.06 RTT	3258.21'	PRC	106.1'
3	STA 404+80/5.25 RTT	3258.63'	PRC	2'
4	STA 404+78/3.37 RTT	3258.72'	PT	
5	STA 404+68/2.14 RTT	3259.02'	PC	2'
6	STA 404+66/4.32 RTT	3259.02'	PT	
7	STA 403+90/3.18 RTT	3261.19'	PC	172'
8	STA 402+90/1.85 RTT	3263.24'	PCC	2'
9	STA 402+90/2.15 LTT	3263.06'	PRC	178'
10	STA 403+88/3.08 LTT	3261.06'	PT	
11	STA 404+49/3.02 LTT	3259.44'	PC	112'
12	STA 404+66/4.18 LTT	3258.99'	PRC	2'
13	STA 404+68/2.38 LTT	3258.99'	PT	
14	STA 404+78/4.37 LTT	3258.69'	PC	2'
15	STA 404+80/6.43 LTT	3258.59'	PT	
16	STA 404+93/9.15 LTT	3258.19'	PC	3'
17	STA 404+97/6.56 LTT	3258.17'	PT	

REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN
			DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY

FILE NAME
 BE2509005-C7.5-PP00

JOB No.
 297-2509-005

DATE
 05/2020



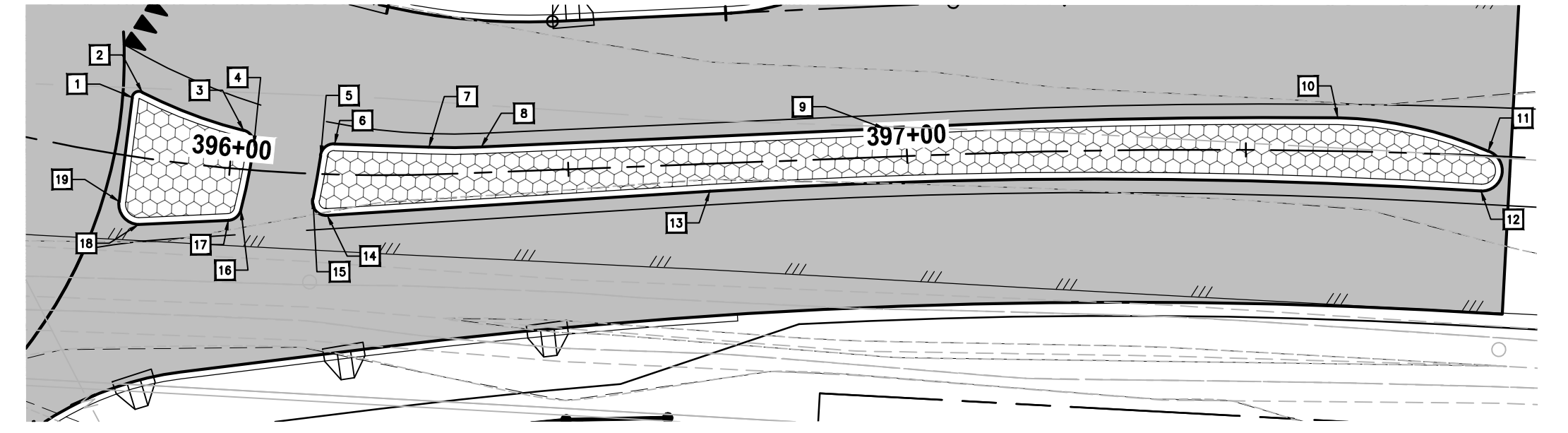
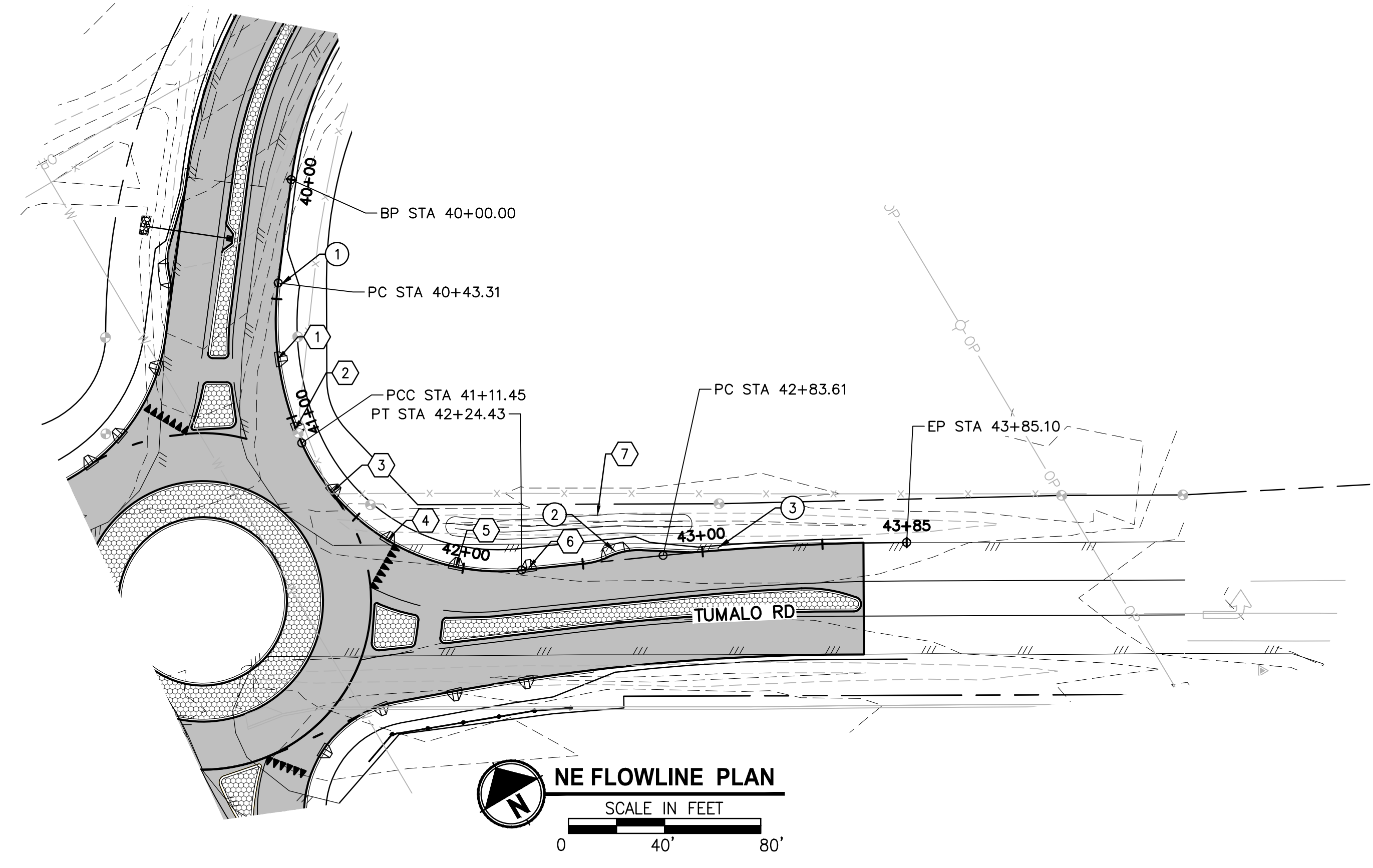
PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

NW FLOWLINE PLAN & PROFILE

DRAWING NO.
 15 OF 40

C7.5

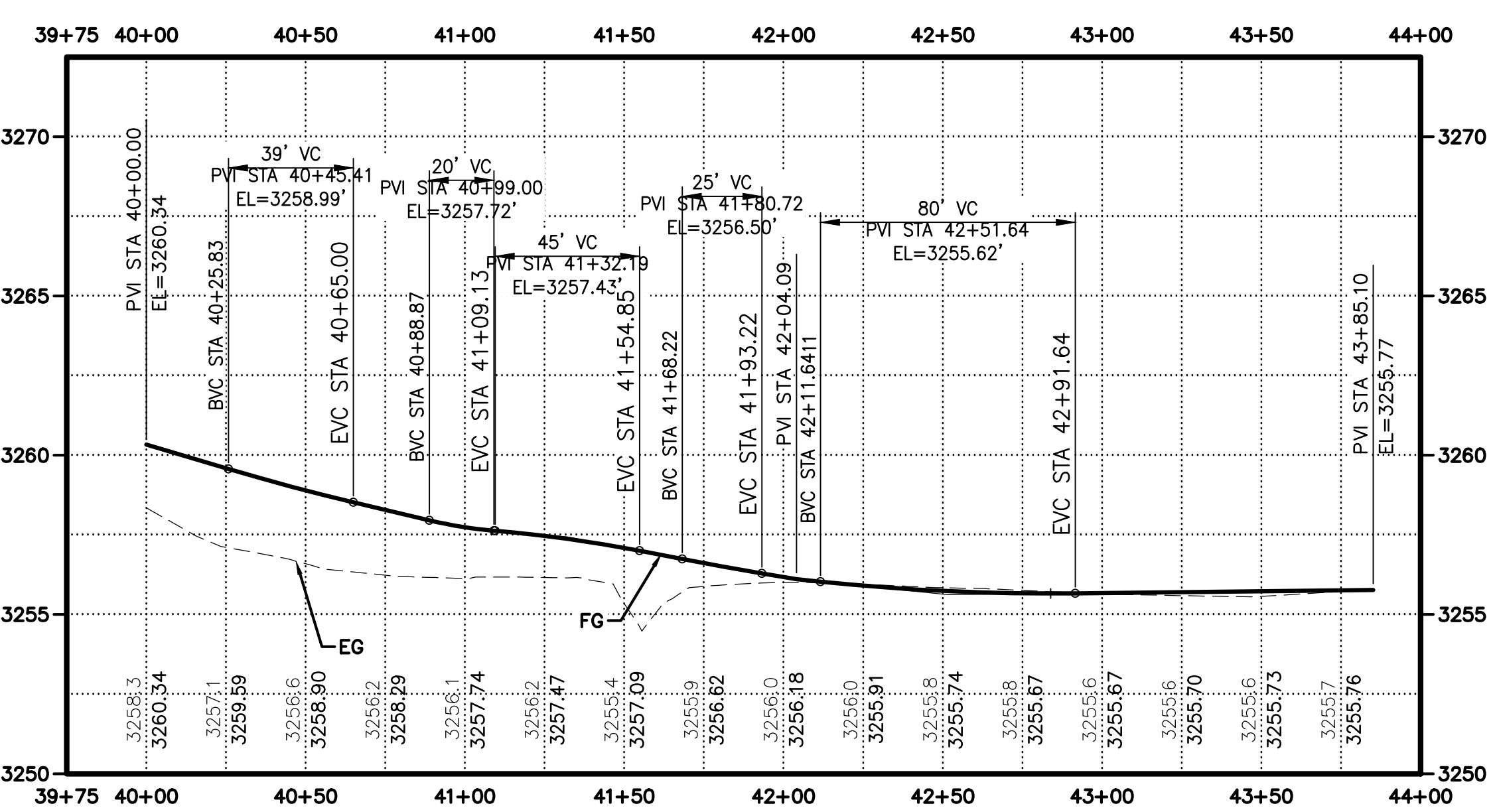
LAYOUT: C7.6 PLAN & PROFILE
 PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005-GBRH-Design_Phase\99\Sves\CADD\DWG\TUMALO RD\BBAs\CD\S\tumalo rd-tumalo pl
 PLOTTED BY: ficodov DATE: Wednesday, September 2, 2020 12:02:38 PM



EAST LEG - CENTER ISLAND DETAIL
 SCALE IN FEET
 0 20' 40'

- CONSTRUCTION NOTES:**
- ① CONSTRUCT LOW PROFILE MOUNTABLE CURB PER DETAIL 1/C4.0, STA: 40+43.3
 - ② CONSTRUCT BIKE EXIT RAMP PER DETAIL 4/C4.0, STA: 42+63.9
 - ③ END LOW PROFILE MOUNTABLE CURB, STA: 43+06.6

- STORM CONSTRUCTION NOTES:**
- ① INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 40+75.1
 - ② INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 41+05.3
 - ③ INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 41+35.9
 - ④ INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 41+66.3
 - ⑤ INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 41+96.8
 - ⑥ INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 42+27.4
 - ⑦ CONSTRUCT WATER QUALITY SWALE PER DETAIL 7/C4.0



NE FLOWLINE PROFILE
 SCALE IN FEET
 0 40' 80'

STRUCTURE TABLE				
POINT	FACE OF CURB LOCATION	FLOWLINE ELEVATION	DESC	RADIUS
1	STA 395+84/8.57 LTT	3256.96'	PC	1'
2	STA 395+86/9.55 LTT	3256.92'	PRC	71'
3	STA 396+02/5.71 LTT	3256.76'	PRC	2'
4	STA 396+03/3.62 LTT	3256.76'	PCC	90'
5	STA 396+13/2.73 LTT	3256.67'	PRC	2'
6	STA 396+15/4.51 LTT	3256.62'	PT	
7	STA 396+30/4.05 LTT	3256.48'	PC	97'
8	STA 396+37/3.81 LTT	3256.41'	PT	
9	STA 396+97/4.18 LTT	3256.03'	PC	998'
10	STA 397+63/4.89 LTT	3256.07'	PCC	58.70'
11	STA 397+86/0.64 LTT	3256.23'	PCC	3'
12	STA 397+85/5.24 RTT	3256.14'	PRC	913'
13	STA 396+71/4.05 RTT	3256.12'	PT	
14	STA 396+15/6.06 RTT	3256.57'	PC	2'
15	STA 396+12/3.73 RTT	3256.64'	PRC	100'
16	STA 396+02/6.02 RTT	3256.70'	PCC	2'
17	STA 396+00/7.67 RTT	3256.68'	PT	
18	STA 395+88/9.80 RTT	3256.81'	PC	3'
19	STA 395+85/6.88 RTT	3256.90'	PT	

REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN
			DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY
 FILE NAME
 BE2509005-C7.6-PP00
 JOB No.
 297-2509-005
 DATE
 05/2020

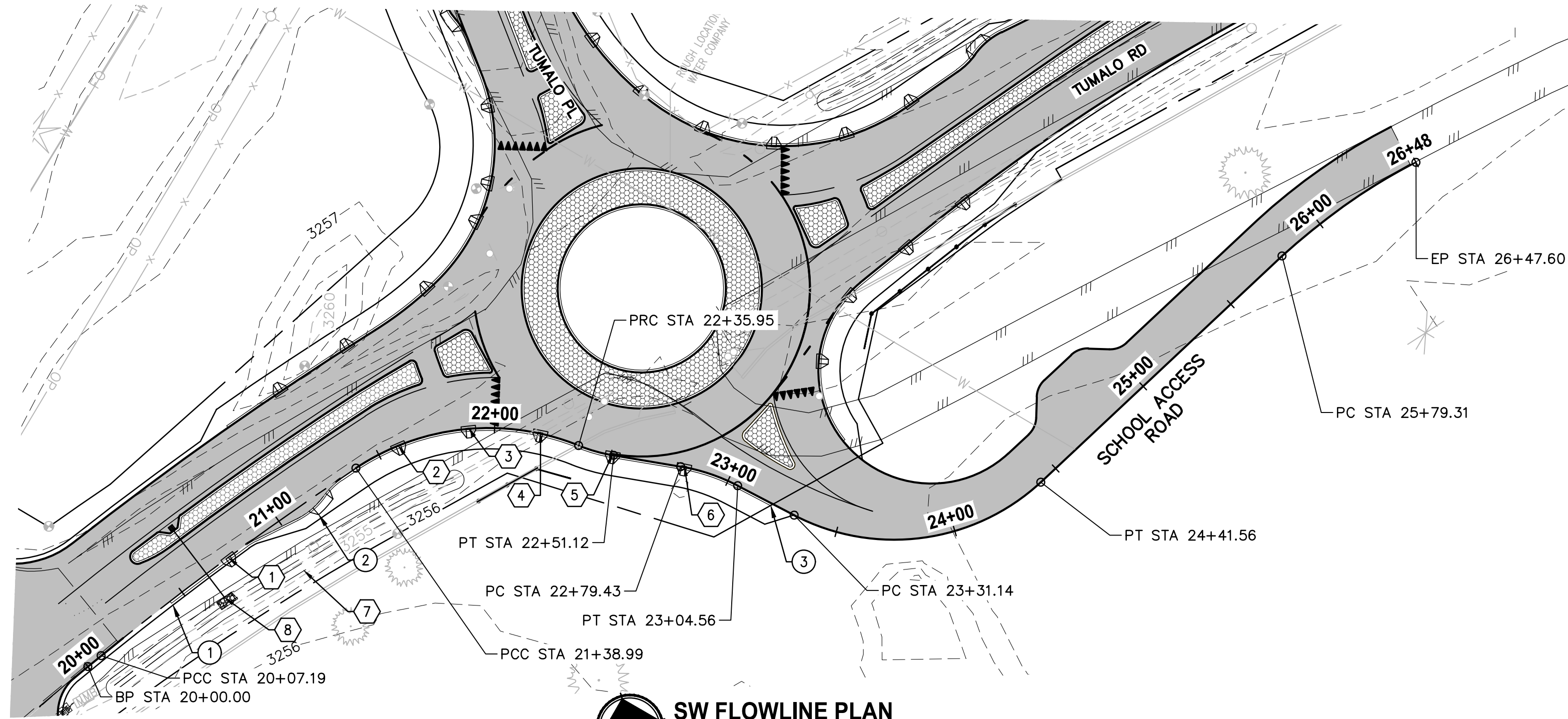


PROJECT NAME
**TUMALO RD / TUMALO PL
 INTERSECTION IMPROVEMENTS**

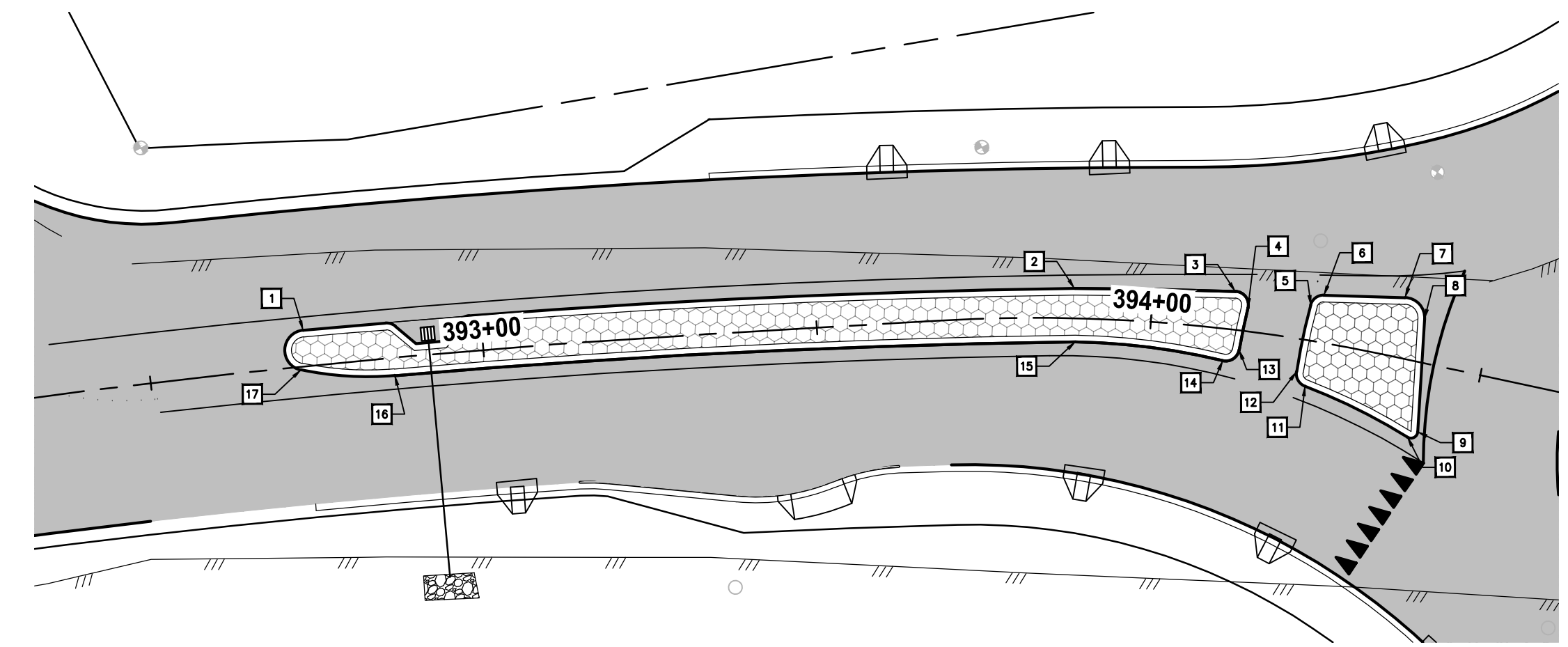
NE FLOWLINE PLAN & PROFILE

DRAWING NO.
 16 OF 40
C7.6

LAYOUT: C7.7 PLAN & PROFILE
 PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005 CBRM Design Phase\995\cadd\DWG\TUMALO RD RBAA\CD\S\Tumalo rd-Tumalo pl
 PLOTTED BY: ricodov DATE: Wednesday, September 2, 2020 12:04:26 PM



SW FLOWLINE PLAN
SCALE IN FEET
0 40' 80'



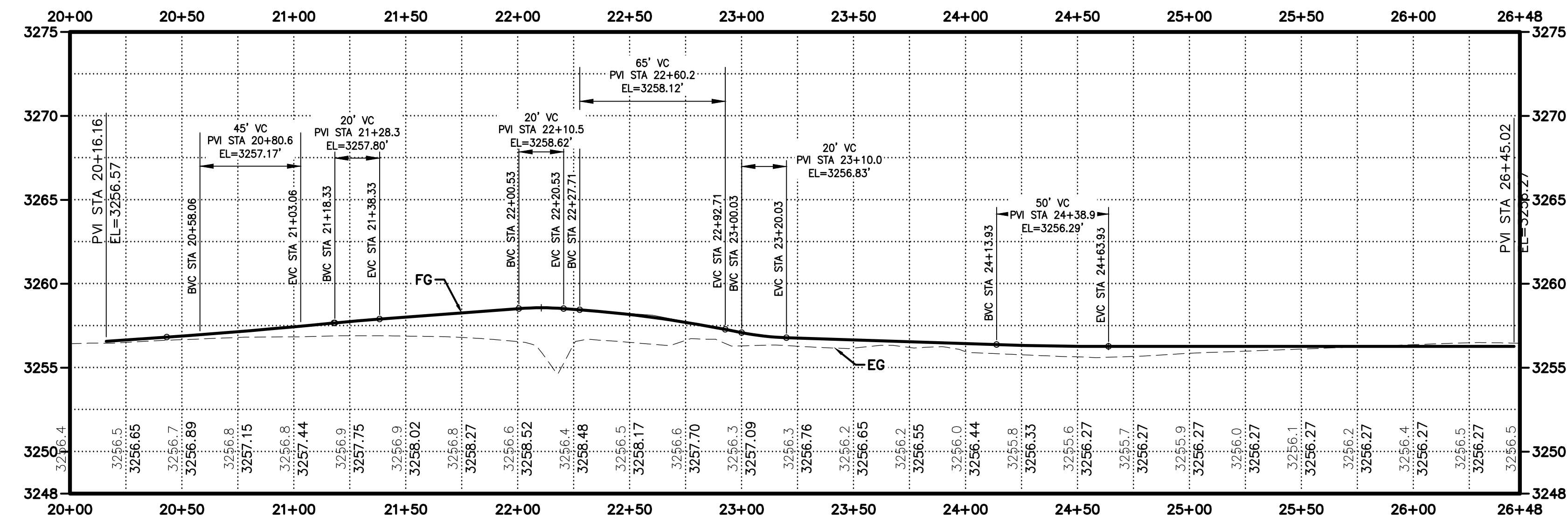
WEST LEG ISLAND DETAIL 1
SCALE IN FEET
0 20' 40'

CONSTRUCTION NOTES:

- 1 CONSTRUCT LOW PROFILE MOUNTABLE CURB PER DETAIL 1/C4.0, STA: 20+43.7
- 2 CONSTRUCT BIKE EXIT PER DETAIL 4/C4.0 STA: 21+17.3
- 3 END LOW PROFILE MOUNTABLE CURB, STA: 23+26.7

STORM CONSTRUCTION NOTES:

- 1 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 21+73.9
- 2 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 21+58.8
- 3 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 21+89.1
- 4 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 22+19.2
- 5 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 22+50.6
- 6 INSTALL CURB CUT PER DETAIL 9/C4.0, STA: 22+81
- 7 CONSTRUCT WATER QUALITY SWALE PER DETAIL 7/C4.0
- 8 ARMOR PIPE OUTLET WITH 1.5 CUBIC YARDS OF CLASS 50 RIPRAP PER ODOT STD DWG RD 317



SW FLOWLINE PROFILE
SCALE IN FEET
0 40' 80'

STRUCTURE TABLE				
POINT	FACE OF CURB LOCATION	FLOWLINE ELEVATION	DESC	RADIUS
1	STA 392+73/5.37 LTT	3257.80'	PCC	1407'
2	STA 393+88/4.46 LTT	3258.39'	PCC	710.7'
3	STA 394+12/5.69 LTT	3258.53'	PCC	2'
4	STA 394+14/3.47 LTT	3258.59'	PRC	100'
5	STA 394+23/5.24 LTT	3258.63'	PCC	2'
6	STA 394+25/7.02 LTT	3258.61'	PT	
7	STA 394+37/8.99 LTT	3258.69'	PC	3'
8	STA 394+40/6.49 LTT	3258.76'	PT	
9	STA 394+43/10.24 RTT	3258.86'	PC	1'
10	STA 394+41/11.33 RTT	3258.82'	PRC	91.80'
11	STA 394+24/6.87 RTT	3258.65'	PRC	2'
12	STA 394+23/4.93 RTT	3258.66'	PCC	90'
13	STA 394+14/2.92 RTT	3258.61'	PRC	2'
14	STA 394+11/4.80 RTT	3258.57'	PRC	100.15'
15	STA 393+89/3.53 RTT	3258.41'	PCC	1399'
16	STA 392+86/2.70 RTT	3257.63'	PRC	48'
17	STA 392+73/0.49 RTT	3257.64'	PCC	3'

REVISIONS	DATE	BY	DESIGNED

ONE INCH AT FULL SCALE, IF NOT, SCALE ACCORDINGLY
 FILE NAME: BE2509005-C7.7-PP00
 JOB No: 297-2509-005
 DATE: 05/2020

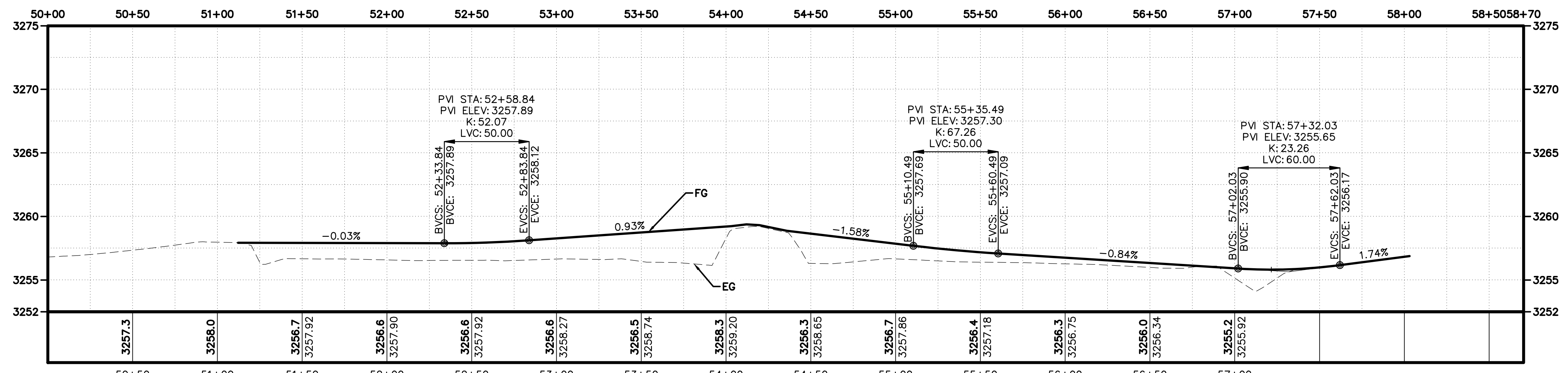
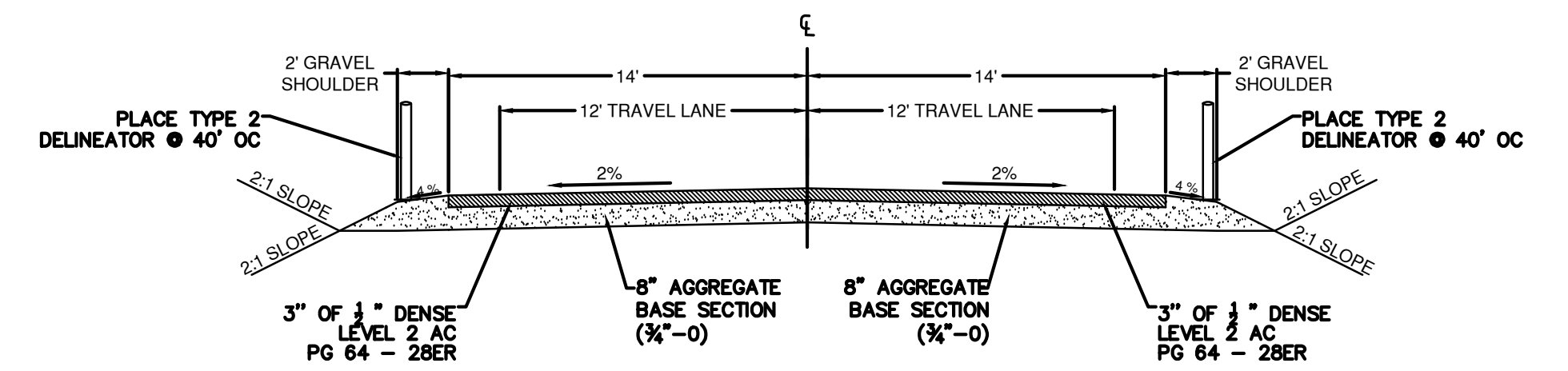
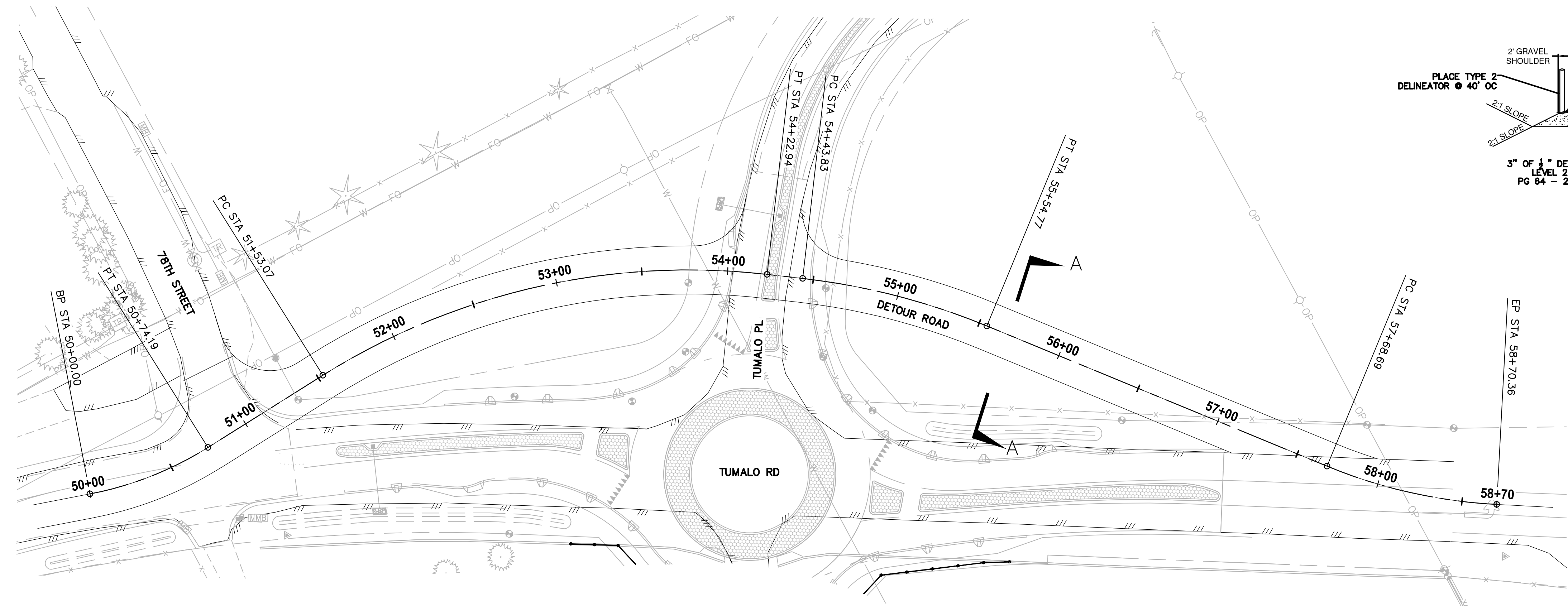


PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

SW FLOWLINE PLAN & PROFILE
C7.7

DRAWING NO.
 17 OF 40
C7.7

LAYOUT: C7.9 PLAN & PROFILE
 PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005 OBRI Design Phase\995\CD\DWG\TUMALO RD\RB4A\CD\TUMALO rd-Tumalo pl
 PLOTTED BY: ricodov DATE: Wednesday, September 2, 2020 1:53:41 PM



REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN
			DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.
 FILE NAME: BE2509005-C7.9-PP00
 JOB No.: 297-2509-005
 DATE: 05/2020

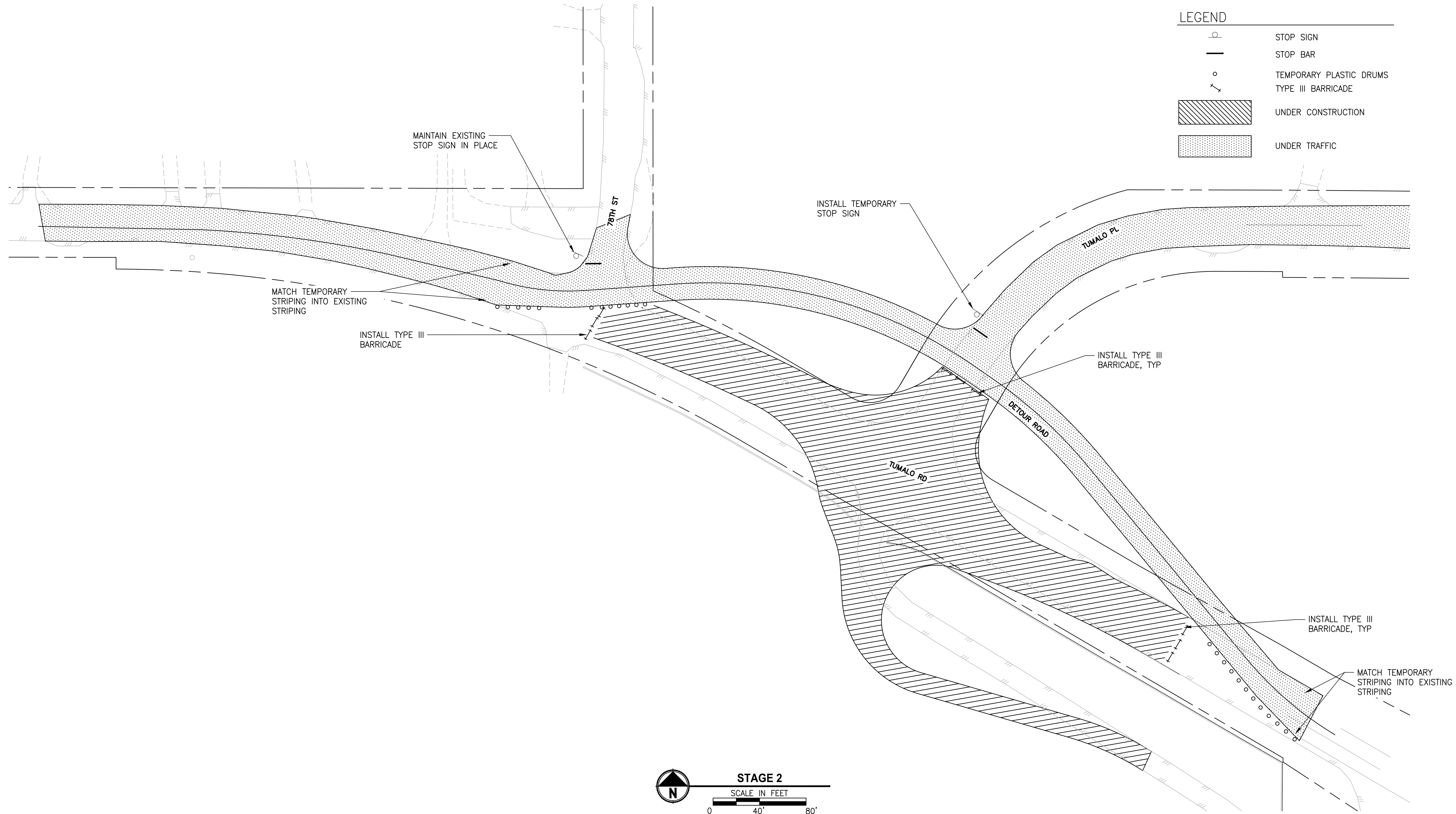


PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

DETOUR ROAD PLAN & PROFILE

DRAWING NO.
 X OF 40
C7.9

LAYOUT: C8.1-STAGING PLAN-STAGE 2 PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005-GBRH Design Phase\99Sects\CADD\DWG\TUMALO RD\BEAs\CD\S\Tumalo rd-Tumalo pl PLOTTED BY: rlcodov DATE: Wednesday, September 2, 2020 3:08:50 PM



REVISIONS	DATE	BY	DESIGNED DR
			DRAWN DR/LYF
			CHECKED
			APPROVED

**ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY**

FILE NAME
BE2509005-C7.210-ST00

JOB No.
297-2509-005

DATE
05/2020



PROJECT NAME

**TUMALO RD / TUMALO PL
INTERSECTION IMPROVEMENTS**

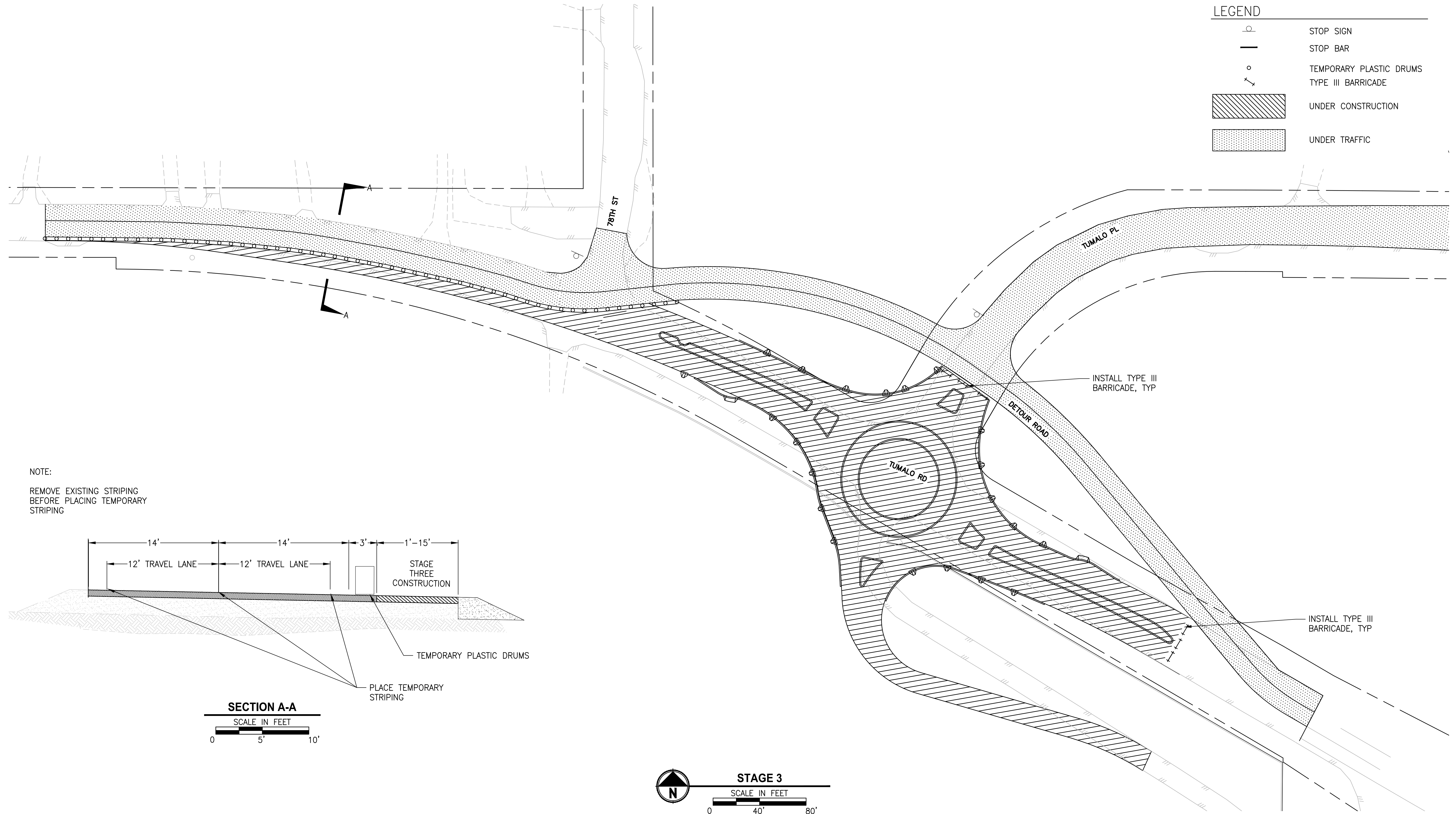
STAGING PLAN-STAGE 2

DRAWING NO.
21 OF 40

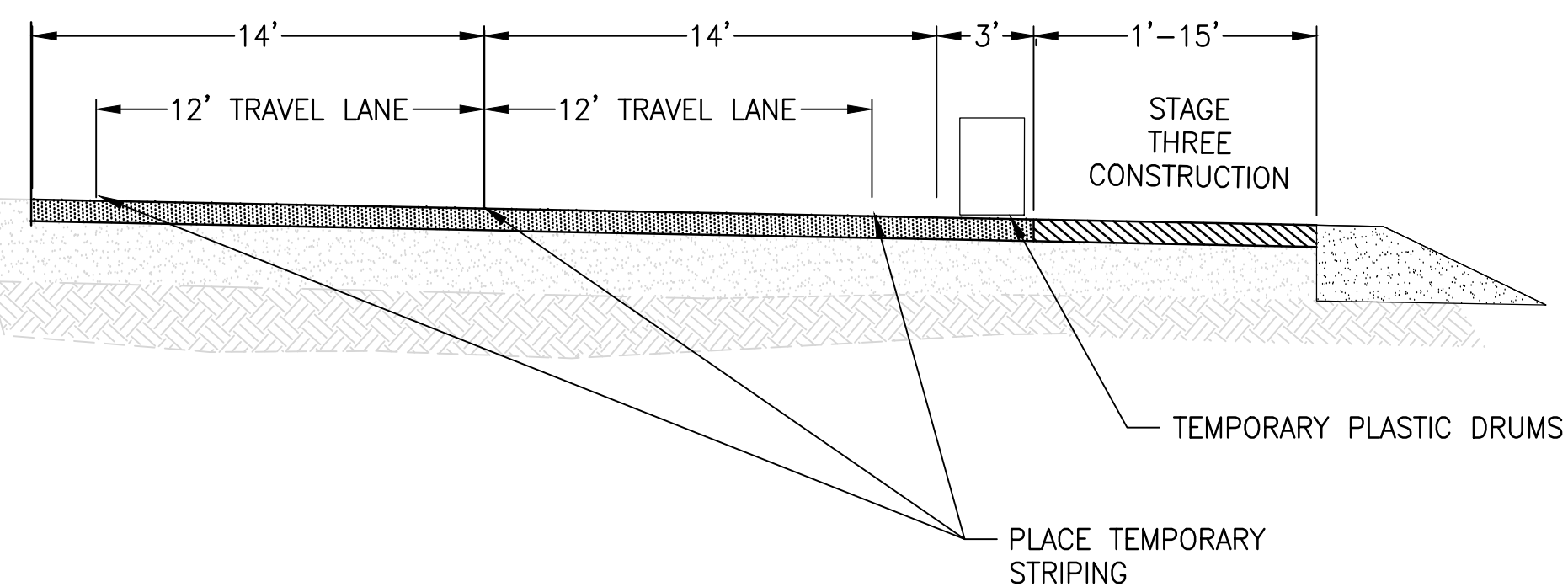
C8.1

LAYOUT: C8.2-STAGING PLAN-STAGE 3 PATH: U:\Bent\Projects\Clients\2509-Deschutes County\2509-005-06BH Design Phase\99Svc\CAD\DWG\TUMALO RD_RBA3\CD\S\Tumalo rd-Tumalo pl PLOTTED BY: rcodev DATE: Wednesday, September 2, 2020 3:09:17 PM

LEGEND	
	STOP SIGN
	STOP BAR
	TEMPORARY PLASTIC DRUMS
	TYPE III BARRICADE
	UNDER CONSTRUCTION
	UNDER TRAFFIC



NOTE:
 REMOVE EXISTING STRIPING
 BEFORE PLACING TEMPORARY
 STRIPING



SECTION A-A
 SCALE IN FEET
 0 5' 10'

STAGE 3
 SCALE IN FEET
 0 40' 80'

REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN
			DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY

FILE NAME
 BE2509005-C7.210-ST00

JOB No.
 297-2509-005

DATE
 05/2020



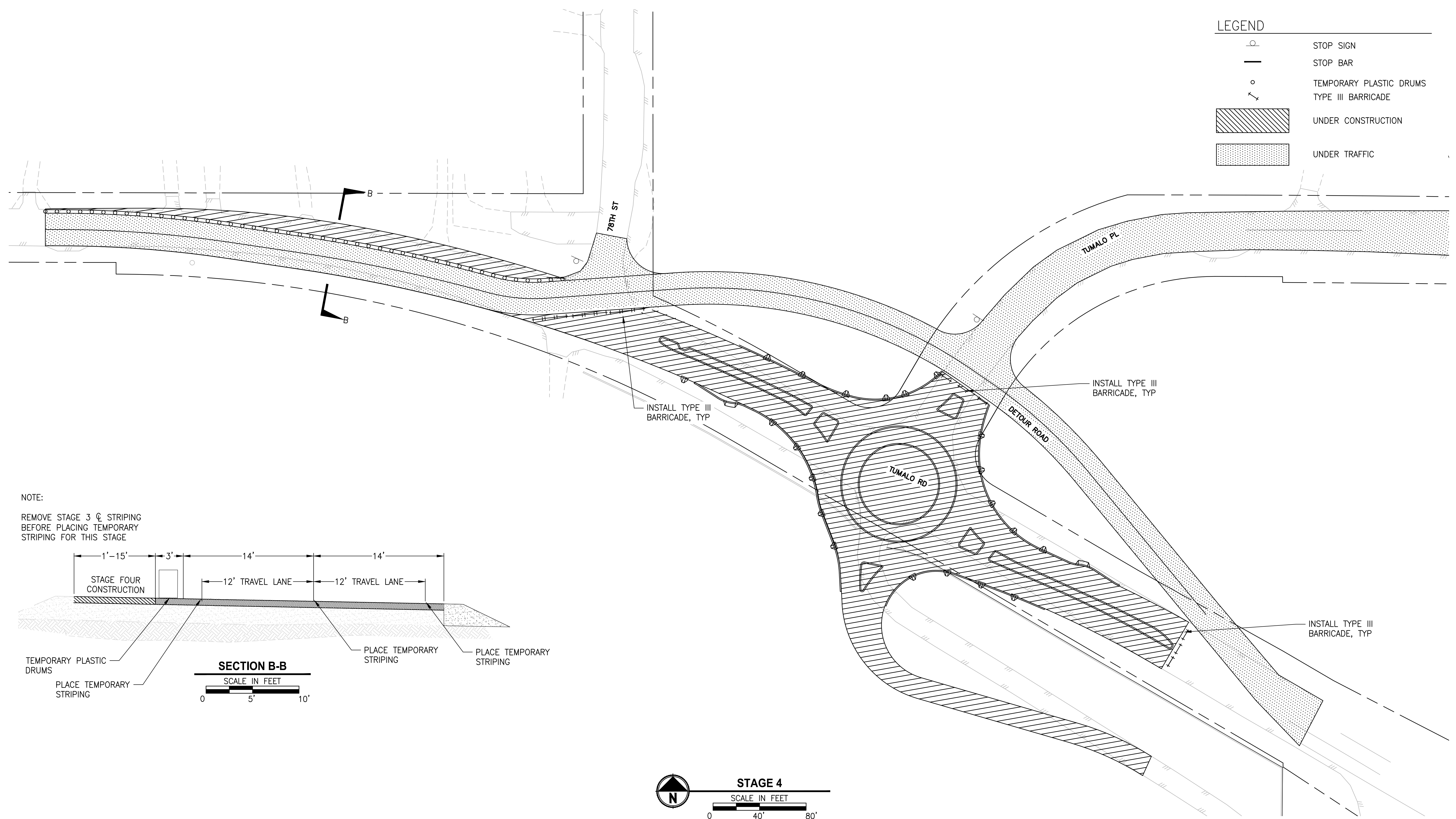
PROJECT NAME
**TUMALO RD / TUMALO PL
 INTERSECTION IMPROVEMENTS**

STAGING PLAN-STAGE 3

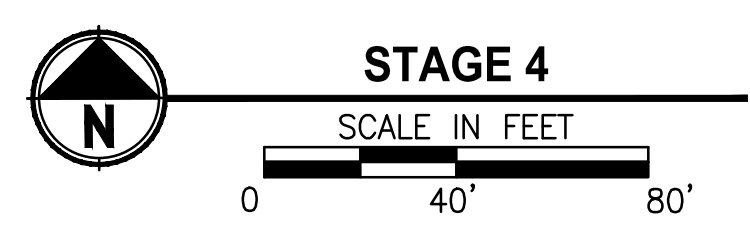
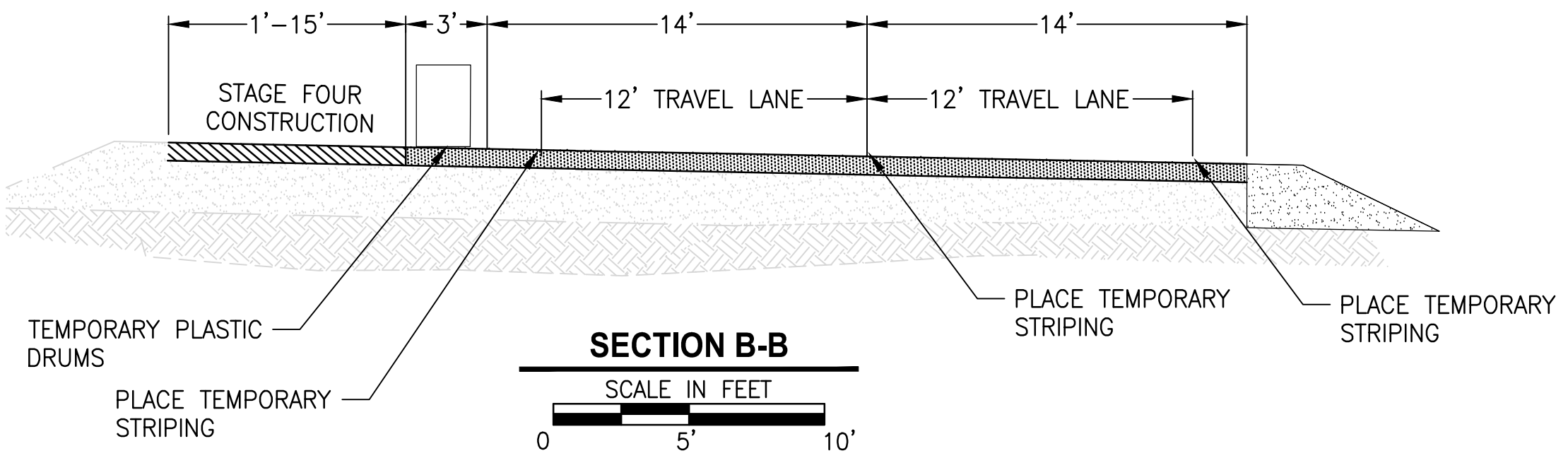
DRAWING NO.
 22 OF 40
C8.2

LAYOUT: C8.3-STAGING PLAN-STAGE 4 PATH: U:\Bent\Projects\Clients\2509-Deschutes\2509-Deschutes\CADD\DWG\TUMALO RD REBA\CD\S\Tumalo rd-Tumalo pl PLOTTED BY: rcodev DATE: Wednesday, September 2, 2020 3:09:35 PM

LEGEND	
	STOP SIGN
	STOP BAR
	TEMPORARY PLASTIC DRUMS
	TYPE III BARRICADE
	UNDER CONSTRUCTION
	UNDER TRAFFIC



NOTE:
REMOVE STAGE 3 Q STRIPING BEFORE PLACING TEMPORARY STRIPING FOR THIS STAGE



REVISIONS	DATE	BY	DESIGNED DR

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
 FILE NAME: BE2509005-C7.210-ST00
 JOB No.: 297-2509-005
 DATE: 05/2020

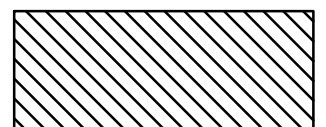
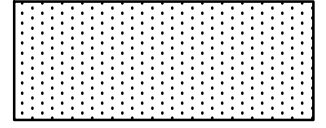
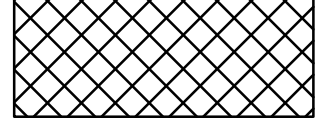
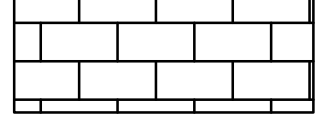


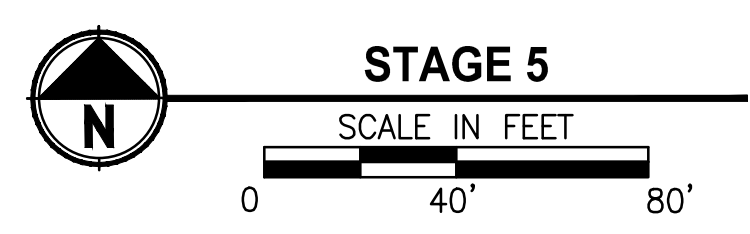
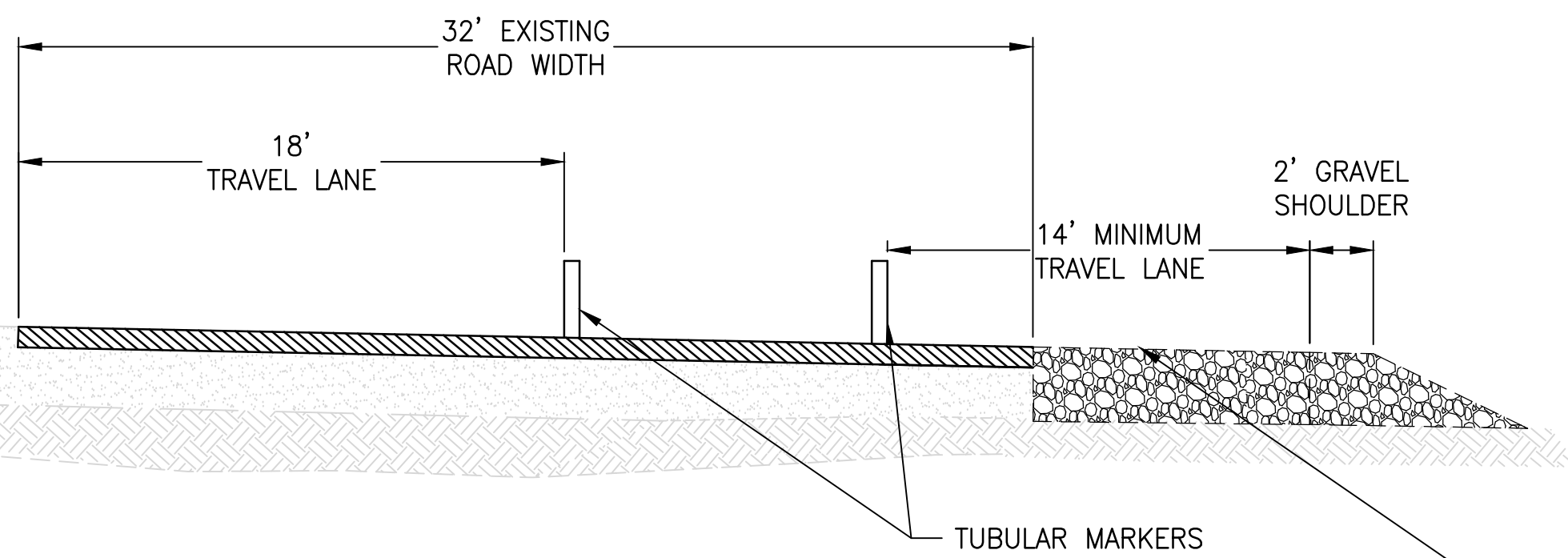
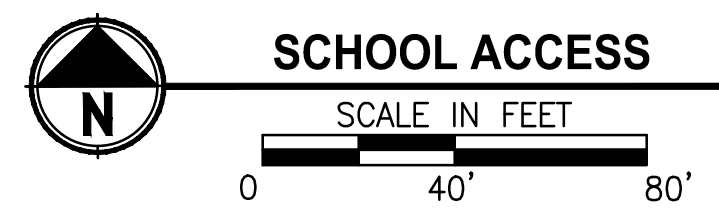
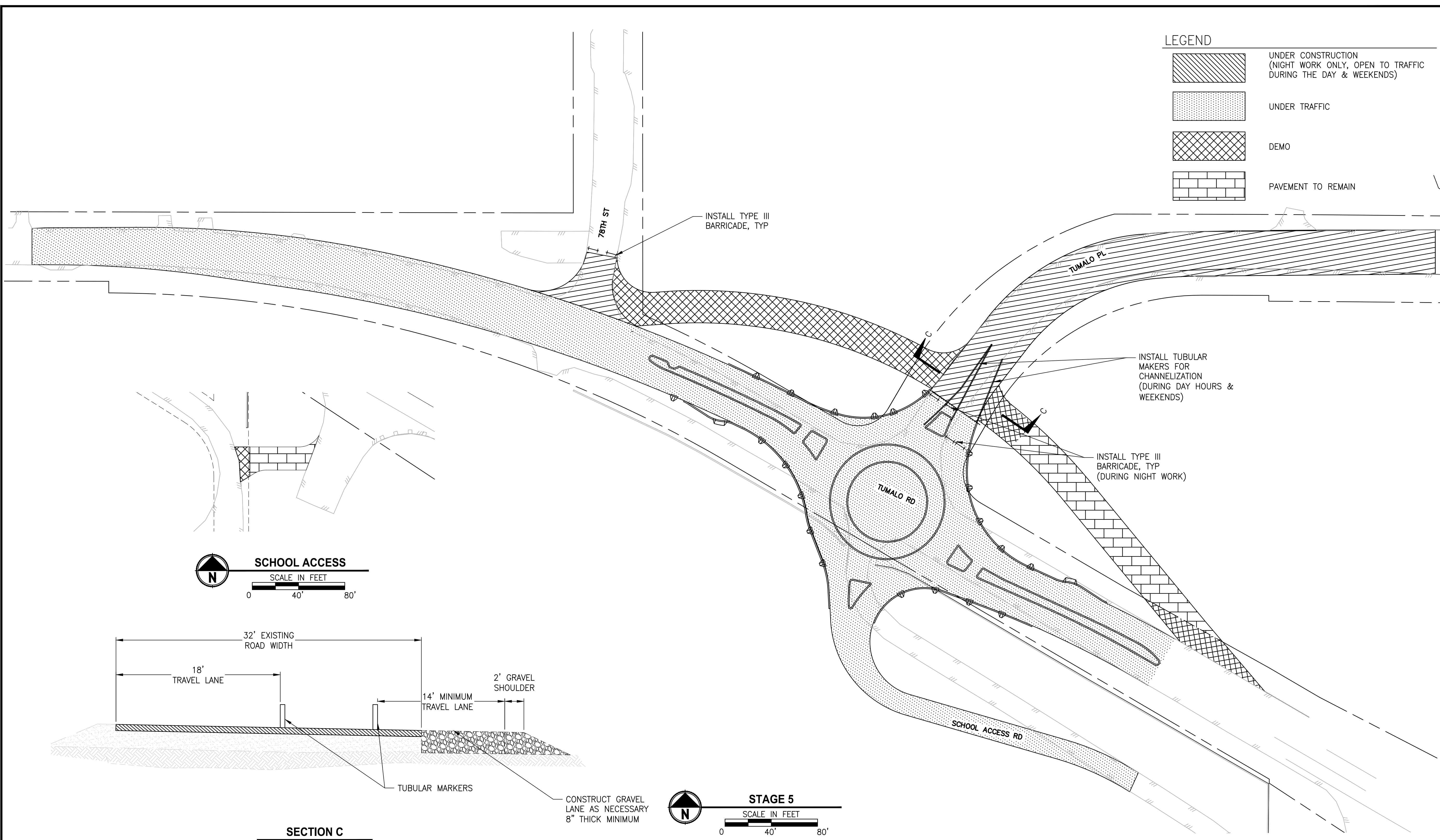
PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

STAGING PLAN-STAGE 4

DRAWING NO.
23 OF 40
C8.3

LAYOUT: C8.4-STAGING PLAN-STAGE 5 PATH: U:\Bent\Projects\Clients\2509-Deschutes\2509-005-06BH Design Phase\99Svcs\CADD\DWG\TUMALO RD REBA\CD\S\Tumalo rd-Tumalo.pl PLOTTED BY: rcodev DATE: Wednesday, September 2, 2020 2:21:54 PM

LEGEND	
	UNDER CONSTRUCTION (NIGHT WORK ONLY, OPEN TO TRAFFIC DURING THE DAY & WEEKENDS)
	UNDER TRAFFIC
	DEMO
	PAVEMENT TO REMAIN



REVISIONS	DATE	BY	DESIGNED DR

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.
 FILE NAME: BE2509005-C7.210-ST00
 JOB No.: 2509-005
 DATE: 05/2020

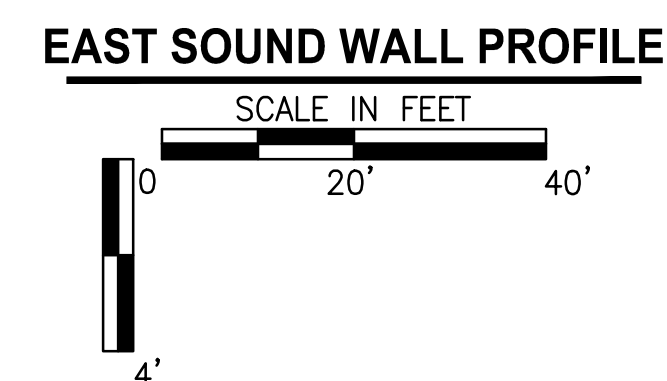
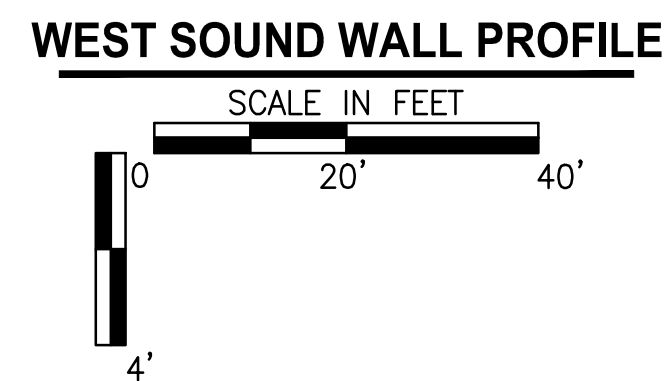
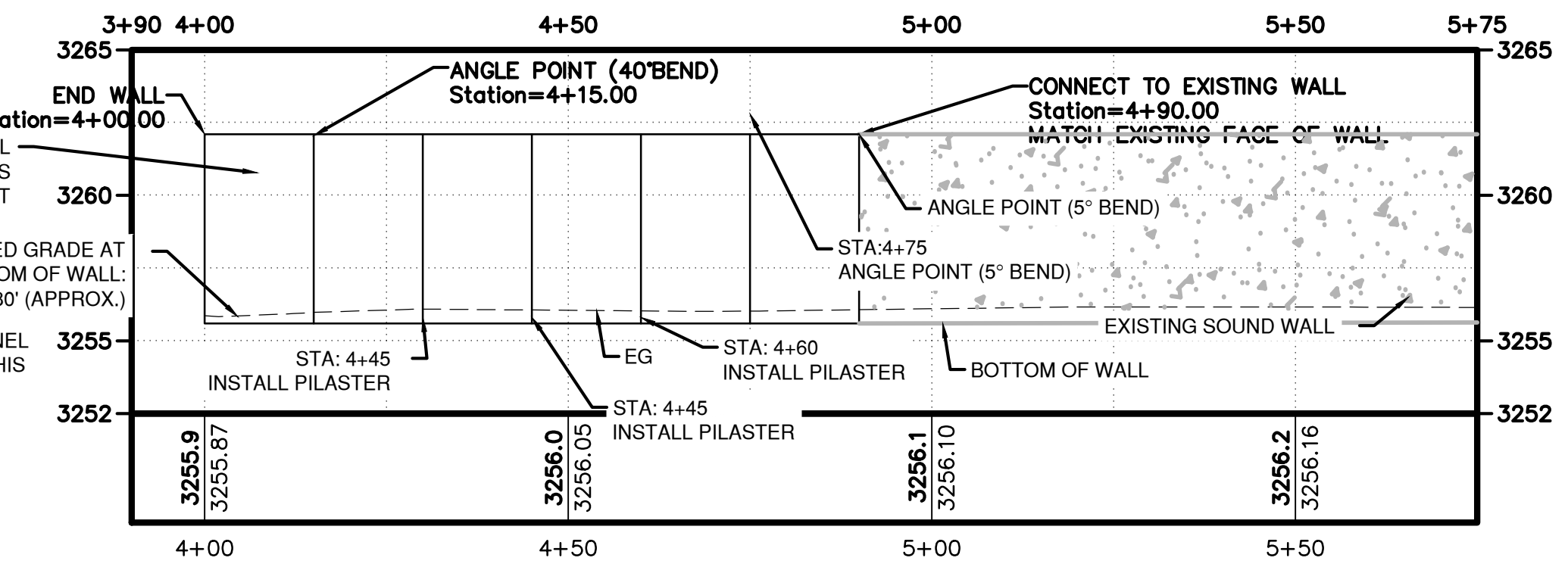
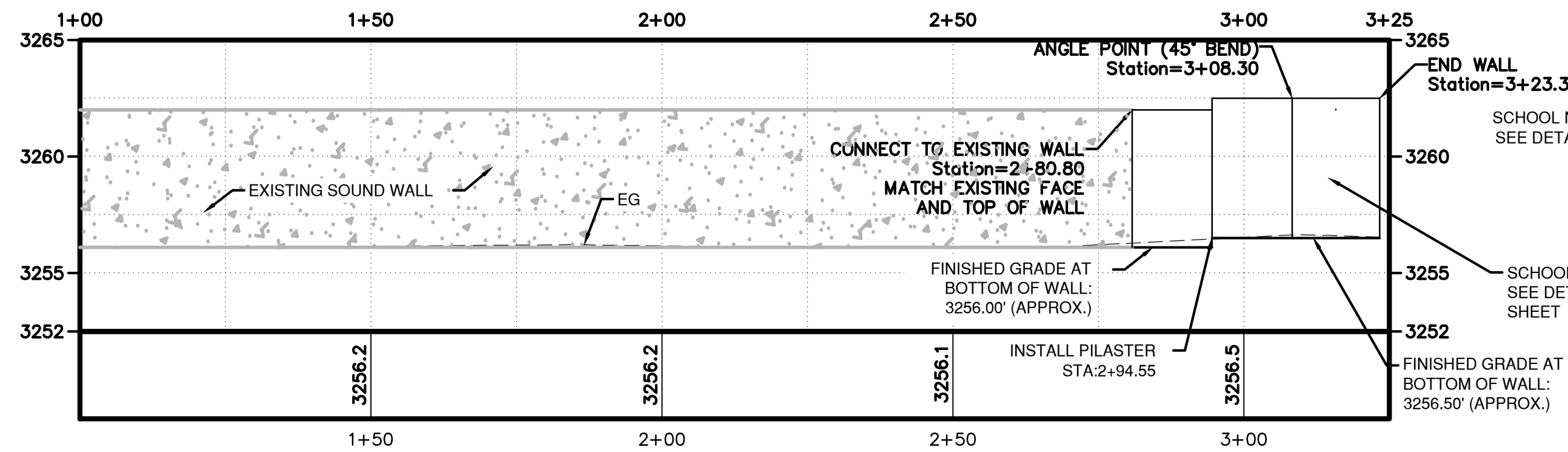
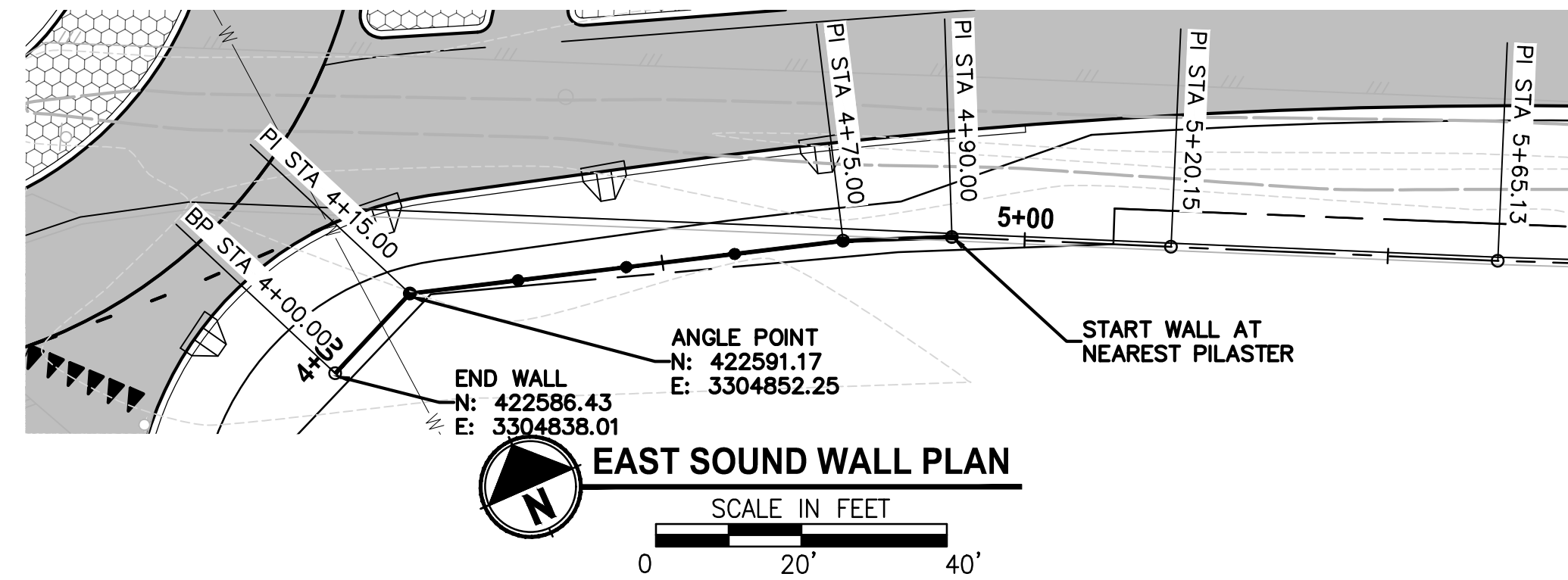
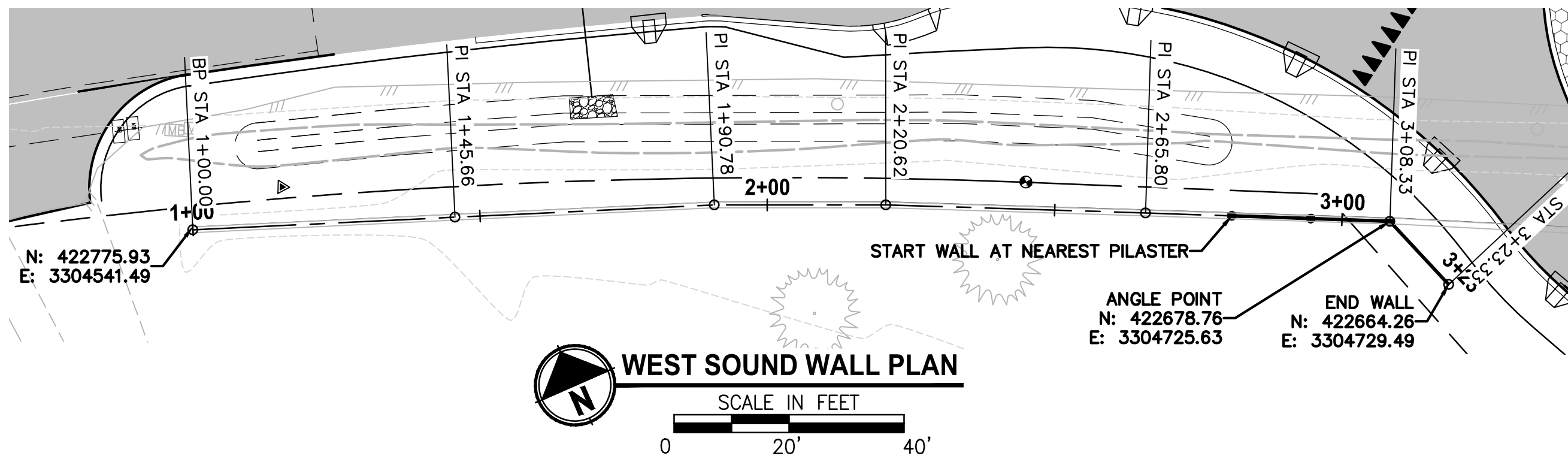


PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

STAGING PLAN-STAGE 5

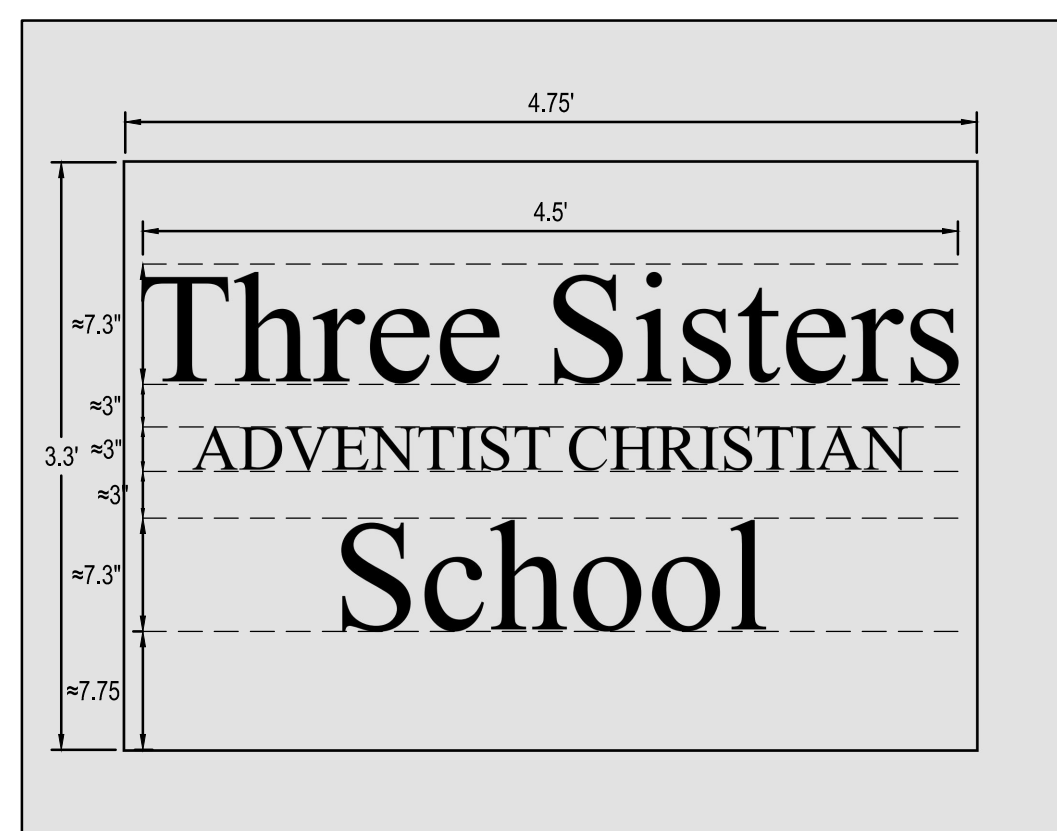
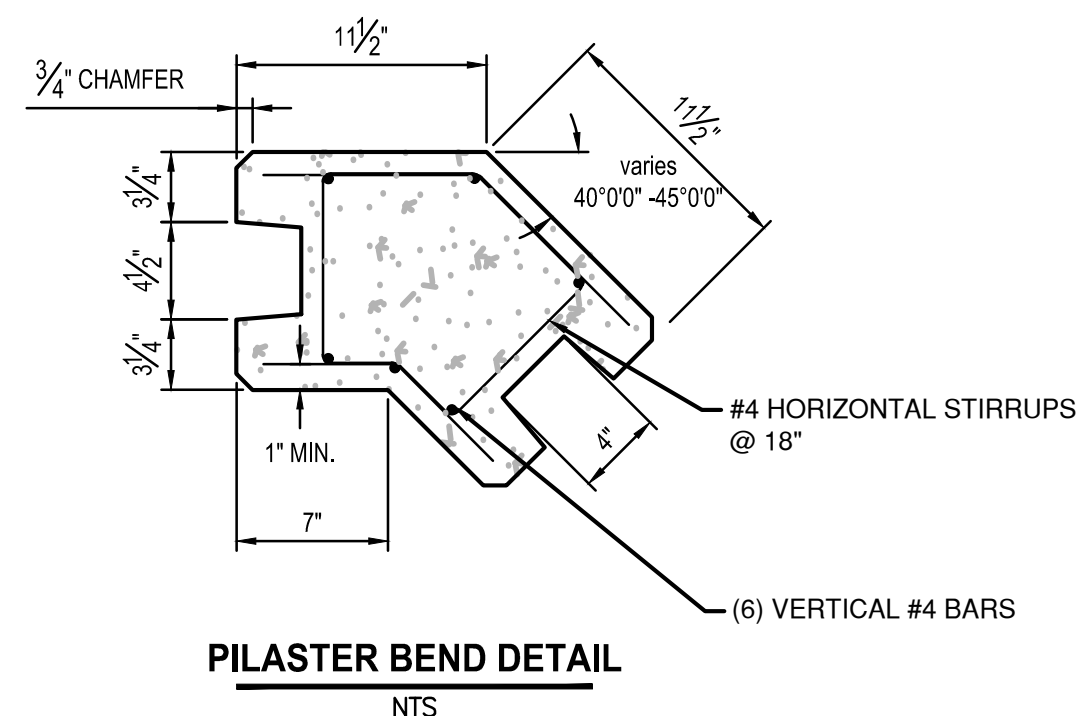
DRAWING NO.
 24 OF 40
C8.4

PATH: U:\Bent\Projects\Clients\2509-Deschutes County\297-2509-005-0BRH-Design Phase\98\Sves\CADD\DWG\TUMALO RD RBAs\CD\S\tumalo rd-tumalo pl
 LAYOUT: C9.0
 PLOTTED BY: ricedev DATE: Wednesday, September 2, 2020 12:52:37 PM



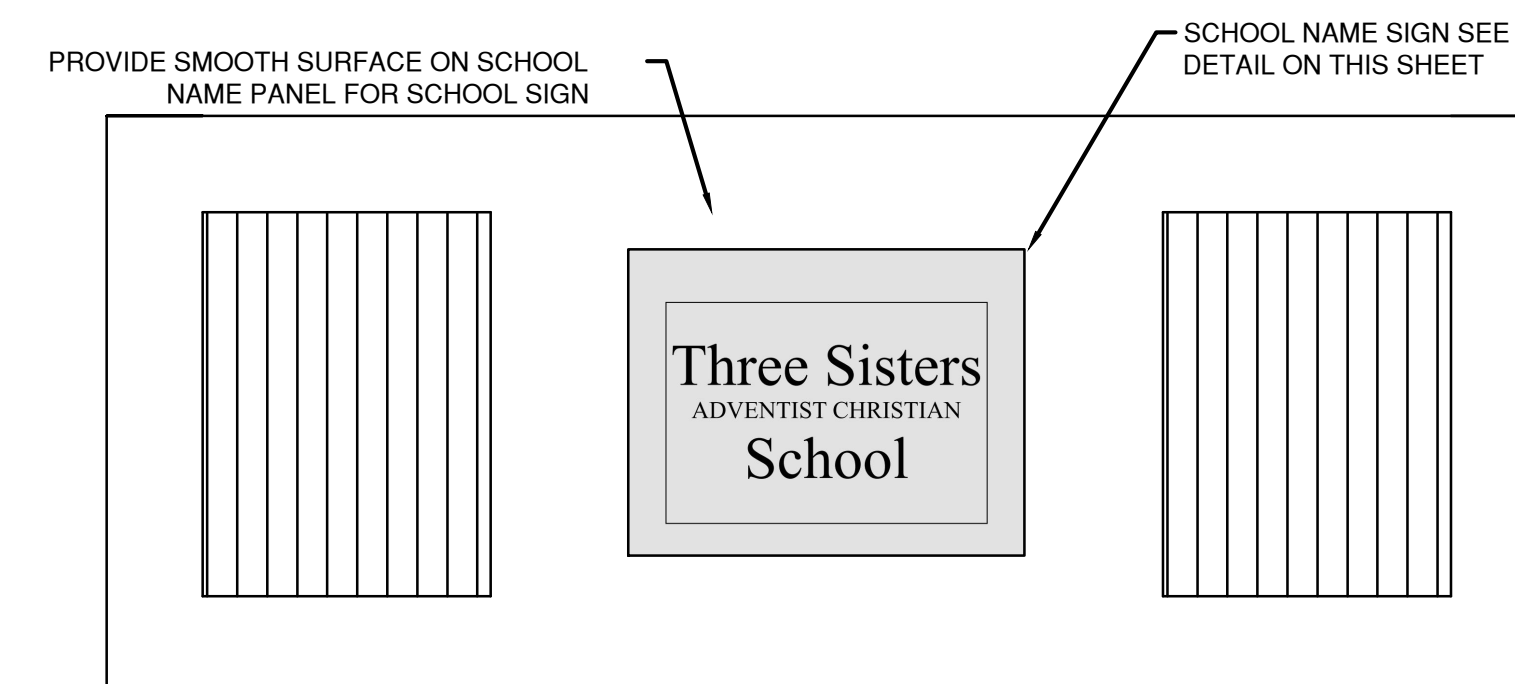
WALL CONSTRUCTION NOTES:

- SEE ODOT STD DWG BR740 FOR DETAILS NOT SHOWN.
- MATCH EXISTING WALL TEXTURE. PROVIDE SAMPLE WALL PANEL SECTION TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- MATCH EXISTING WALL HEIGHT. ELEVATIONS GIVEN IN PROFILE VIEWS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD.
- PILASTERS SHALL HAVE A MAXIMUM SPACING OF 15 FEET ON CENTER.
- SEE PILASTER BEND DETAIL (THIS SHEET) FOR BENDS GREATER THAN 5 DEGREES.
- USE AVERAGE SOIL CONDITIONS FOR FOOTING LENGTH ON THE ODOT STD DWG BR740



SCHOOL NAME SIGN
NTS

FONT: TIMES NEW ROMAN (UPPER AND LOWER CASE)
 COLOR: FLAT BLACK.
 MATERIAL: 1/2" METAL (STEEL OR ALUMINUM)
 MOUNT: STANDOFF



SCHOOL NAME PANEL
NTS

REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN
			DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.
 FILE NAME: BE2509005-C9.0-WL00
 JOB No.: 297-2509-005
 DATE: 05/2020

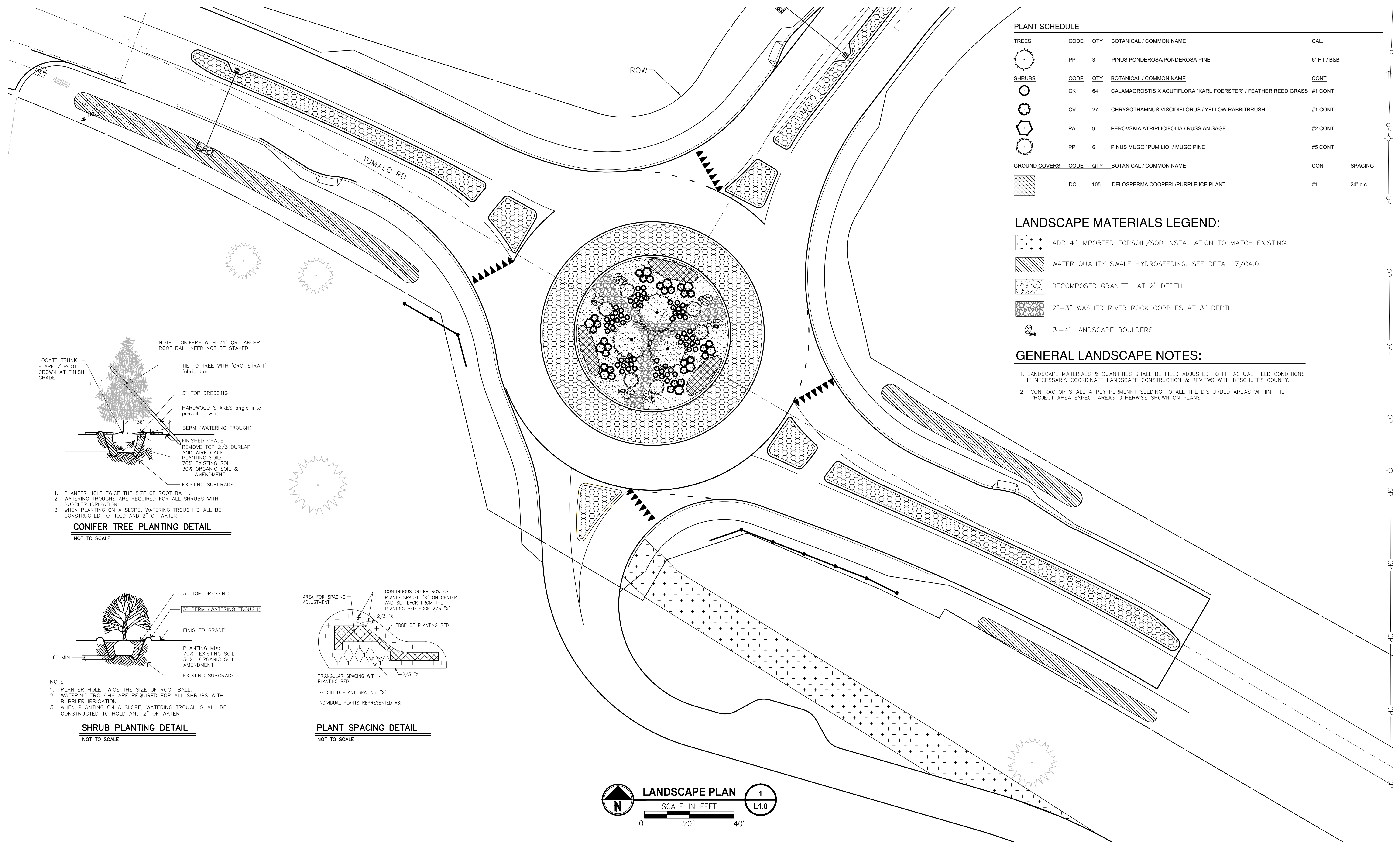


PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

SOUND WALL PLAN AND PROFILE

DRAWING NO.
 24 OF 40
C9.0

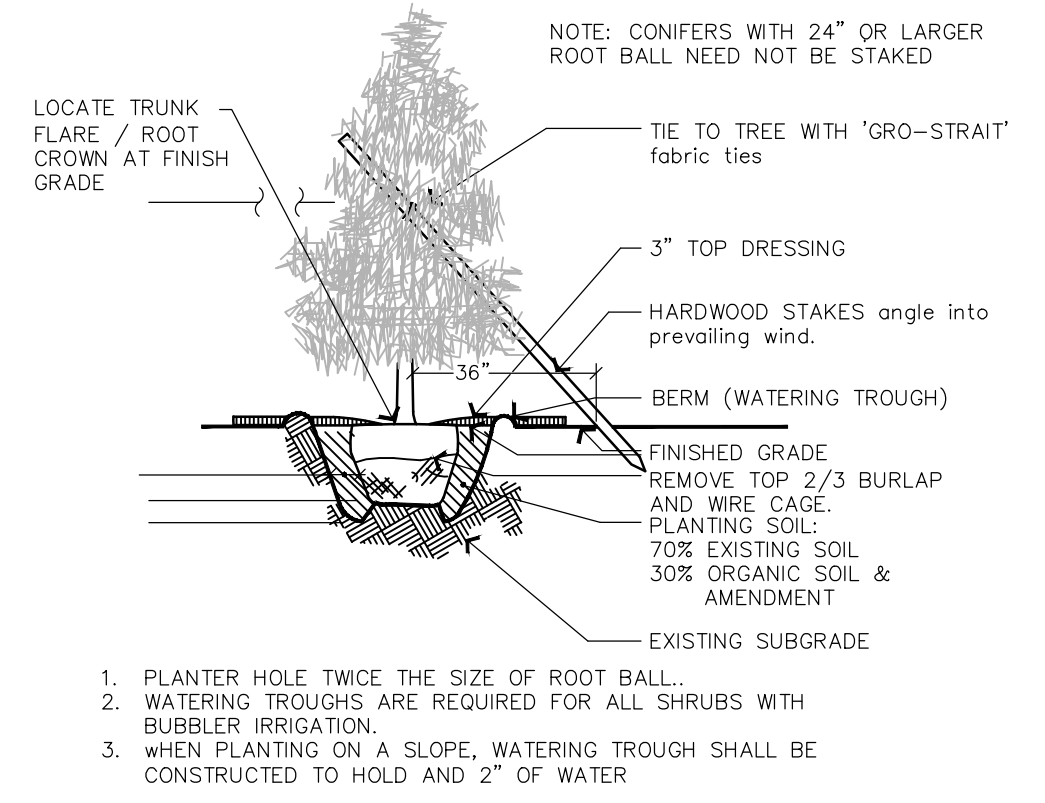
LAYOUT: L1.0 LANDSCAPE PLAN
 PATH: U:\Bend\Projects\Clients\2509-Deschutes County\297-2509-005 OBRH Design Phase\995\cadd\DWG\TUMALO RD_RBAA\CD\TUMALO RD-Tumalo Pl
 PLOTTED BY: ricodar DATE: Wednesday, September 2, 2020 10:33:52 AM



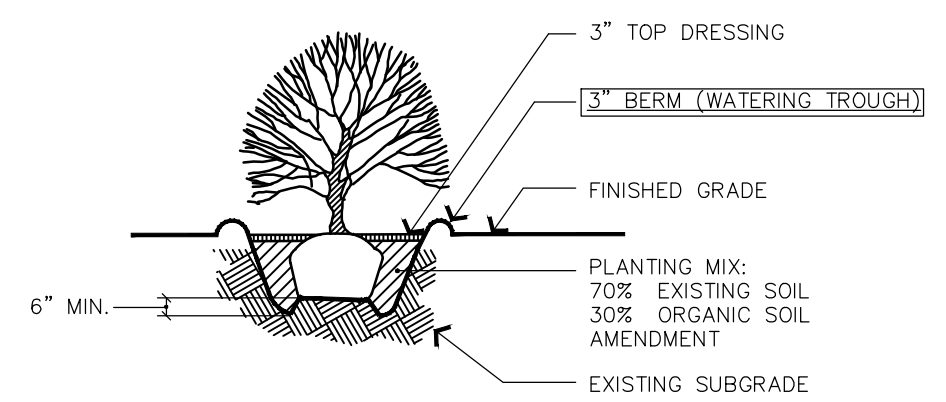
PLANT SCHEDULE					
TREES	CODE	QTY	BOTANICAL / COMMON NAME	CAL	
	PP	3	PINUS PONDEROSA/PONDEROSA PINE	6' HT / B&B	
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	
	CK	64	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' / FEATHER REED GRASS	#1 CONT	
	CV	27	CHRYSOTHAMNUS VISCIDIFLORUS / YELLOW RABBITBRUSH	#1 CONT	
	PA	9	PEROVSKIA ATRIPLICIFOLIA / RUSSIAN SAGE	#2 CONT	
	PP	6	PINUS MUGO 'PUMILIO' / MUGO PINE	#5 CONT	
GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
	DC	105	DELOSPERMA COOPERII/PURPLE ICE PLANT	#1	24" o.c.

- LANDSCAPE MATERIALS LEGEND:**
- ADD 4" IMPORTED TOPSOIL/SOD INSTALLATION TO MATCH EXISTING
 - WATER QUALITY SWALE HYDROSEEDING, SEE DETAIL 7/C4.0
 - DECOMPOSED GRANITE AT 2" DEPTH
 - 2"-3" WASHED RIVER ROCK COBBLES AT 3" DEPTH
 - 3'-4' LANDSCAPE BOULDERS

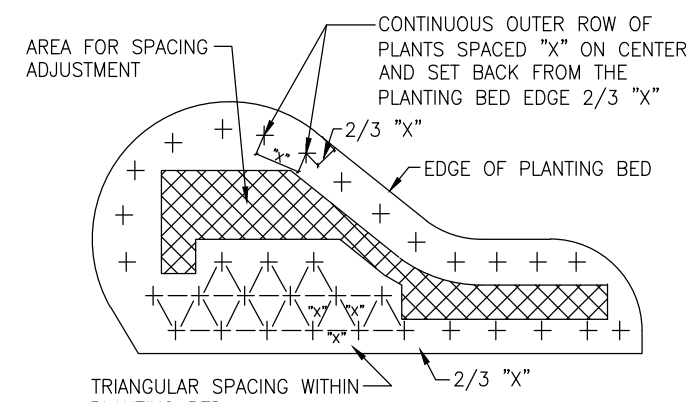
- GENERAL LANDSCAPE NOTES:**
- LANDSCAPE MATERIALS & QUANTITIES SHALL BE FIELD ADJUSTED TO FIT ACTUAL FIELD CONDITIONS IF NECESSARY. COORDINATE LANDSCAPE CONSTRUCTION & REVIEWS WITH DESCHUTES COUNTY.
 - CONTRACTOR SHALL APPLY PERMENNT SEEDING TO ALL THE DISTURBED AREAS WITHIN THE PROJECT AREA EXPECT AREAS OTHERWISE SHOWN ON PLANS.



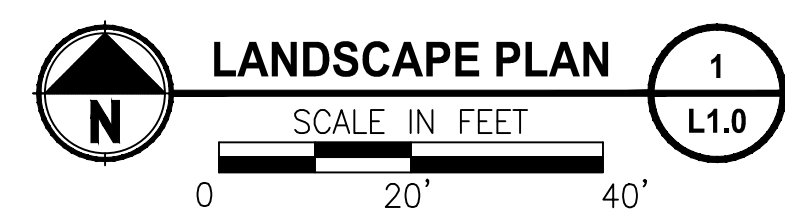
CONIFER TREE PLANTING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE



PLANT SPACING DETAIL
NOT TO SCALE



REVISIONS	DATE	BY	DESIGNED
			DR
			DRAWN DR/LYF
			CHECKED
			APPROVED

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.
 FILE NAME: BE2509005-L1.0-PL00
 JOB No.: 297-250-005
 DATE: 09/2020



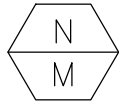



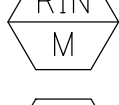

PROJECT NAME
TUMALO RD / TUMALO PL INTERSECTION IMPROVEMENTS

LANDSCAPE PLAN

DRAWING NO.
 25 OF 40
C10.0

SIGNING AND STRIPING LEGEND
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS

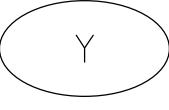




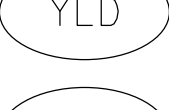
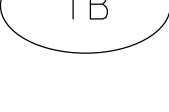
S I G N I N G L E G E N D

-  Install new sign (N) on new (M) sign support.
-  Install new sign (N)
-  Maintain and protect existing sign (N) and (M) sign support.
-  Remove existing sign (N) and (M) sign support.
-  Remove and save existing sign (N) and remove (M) sign support.
-  Reinstall existing sign (N) on new (M) sign support.
-  Remove existing sign (N).

A B B R E V I A T I O N S

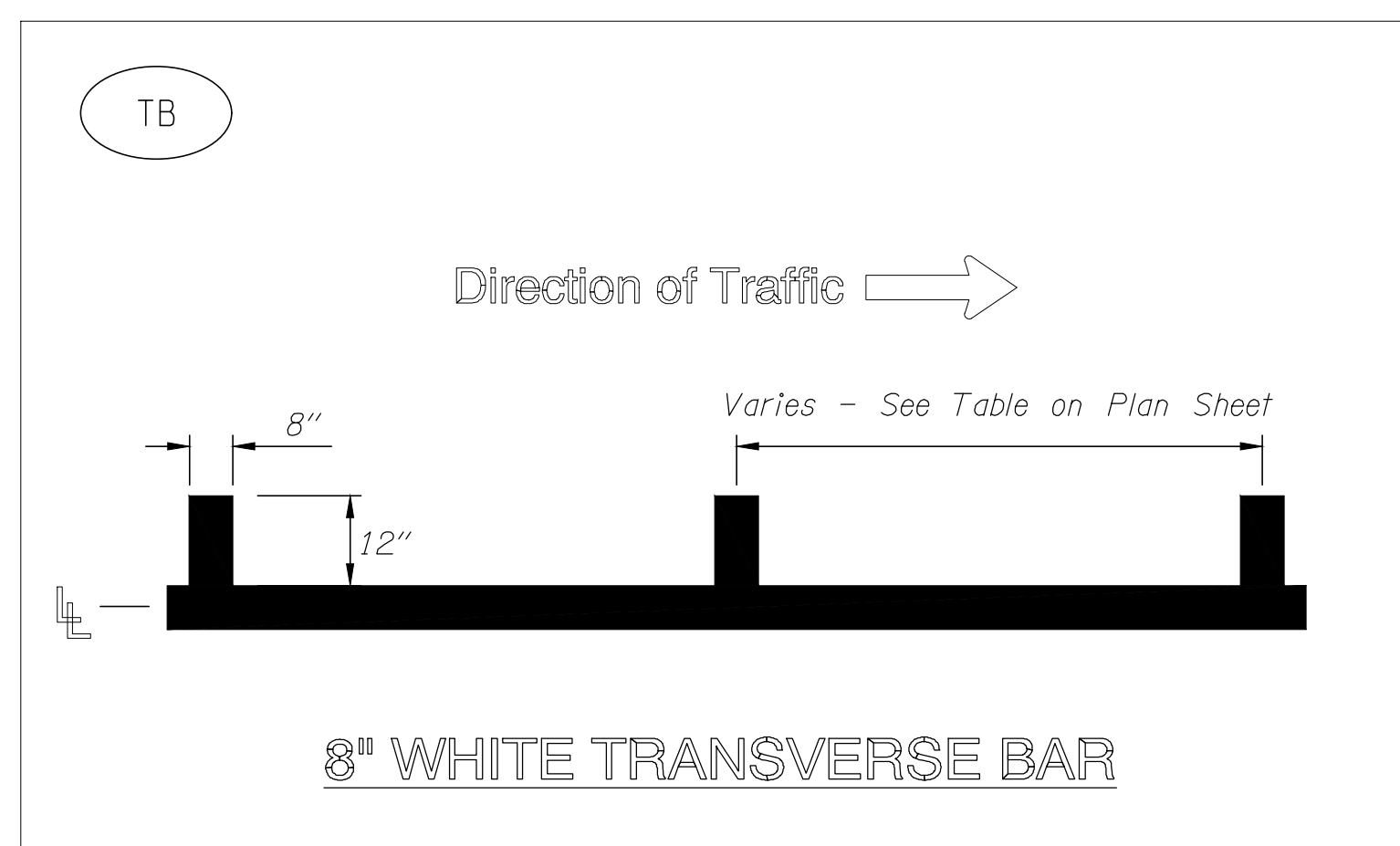
- N = Sign Number
M = Material
Material options:
W = Wood Post
S = Steel Breakaway Support (TBB or MPB)
ST = Perforated Steel Square Tube Sign Support

S T R I P I N G L E G E N D

-  Inst. 4" yellow line
-  Inst. 8" white line
-  Inst. 8" white dotted line
-  Inst. 1' white stop bar
-  Inst. narrow double no-pass two 4" yellow lines
-  Inst. yield line (white)
-  Inst. transverse speed bars. See detail on this sheet.

G E N E R A L N O T E S

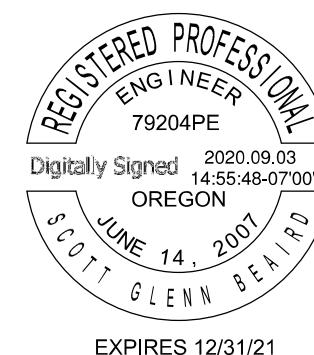
1. All signage and pavement marking shall conform to the requirements and specifications of the Manual on Uniform Traffic Control Devices (M.U.T.C.D.) latest edition, the Oregon supplement to the M.U.T.C.D., the Oregon Standard Specifications for Construction, and the project special provisions.
2. All pre-markings for pavement markings and striping, as well as signs locations shall be approved by the Engineer prior to final placement.
3. All longitudinal pavement markings shall be "Method AB: Thermoplastic, Extruded or Sprayed, Surface, Non-Profiled".
4. All transverse bars and legends shall be type "AB Thermoplastic".
5. All signs and sign supports removed from the project shall be salvaged to Deschutes County.
6. Preserve and protect all existing striping outside of the project limits.



REVISIONS	DATE	BY	DESIGNED	DRAWN	CHECKED	APPROVED
			LTN	LTN	HJS	SGB

**ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY**

FILE NAME: _____
JOB No.: _____
DATE: 09/02/2020



PROJECT NAME
**TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS**
DESCHUTES COUNTY

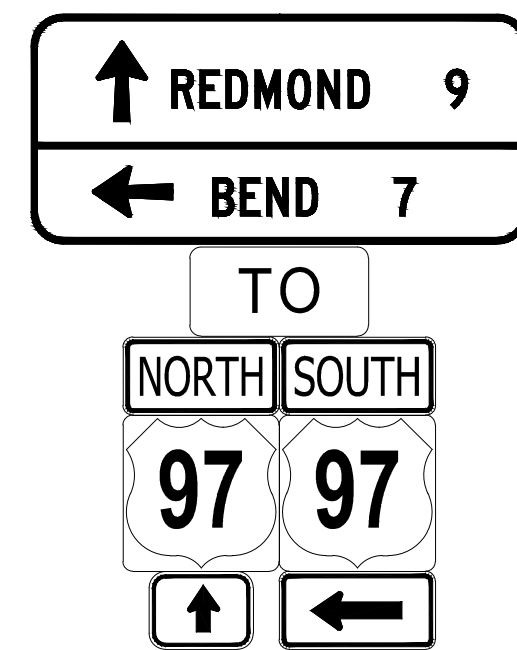
SIGNING AND STRIPING LEGEND

DRAWING NO.
26 OF 38
SS1

EXISTING SIGN DETAILS
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS



Sign 1



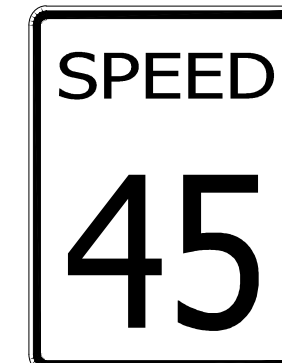
Sign 2



Sign 3

3a

3b



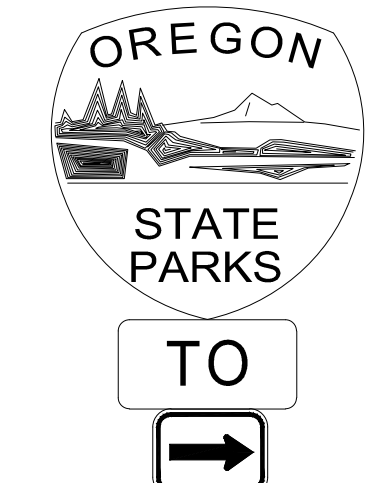
Sign 4



Sign 5



Sign 6

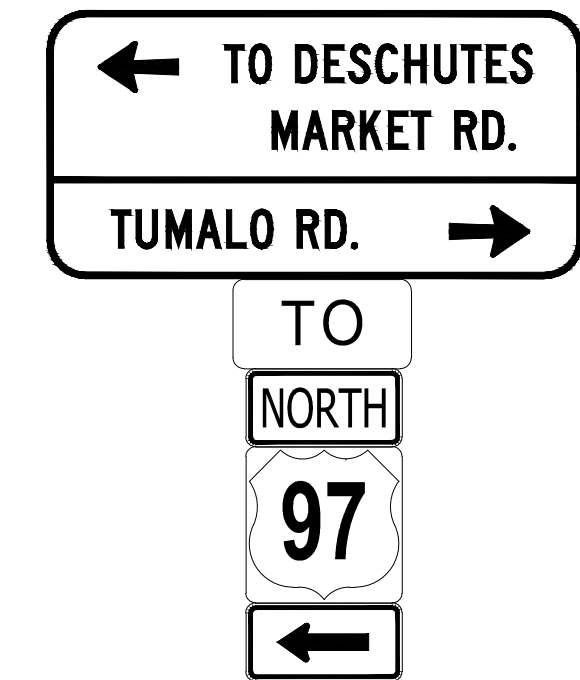


Sign 7

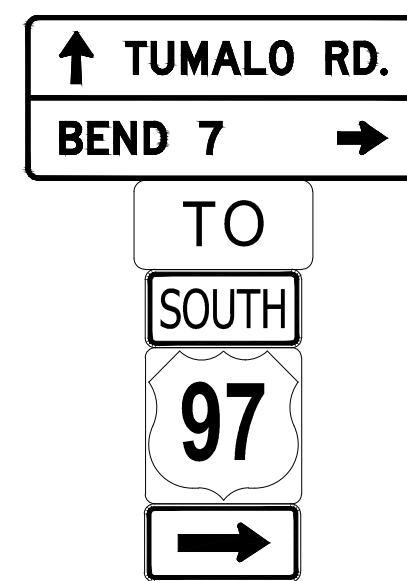
7a

7b

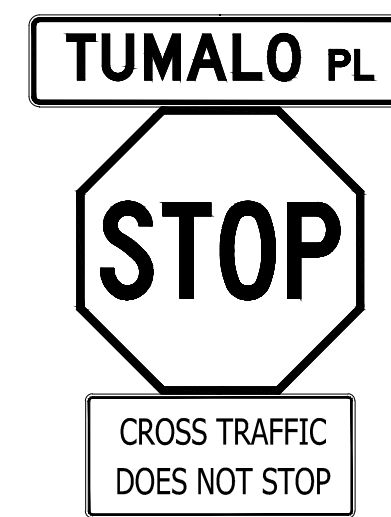
7c



Sign 8



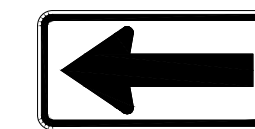
Sign 9



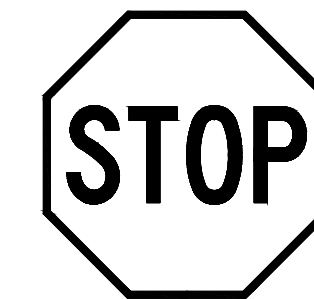
Sign 10



Sign 11



Sign 12



Sign 13

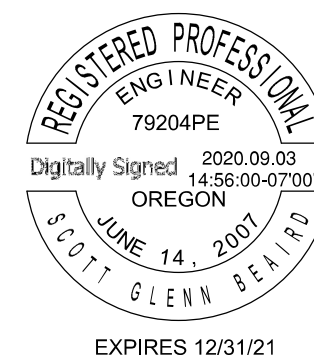
REVISIONS	DATE	BY	DESIGNED LTN
			DRAWN LTN
			CHECKED HJS
			APPROVED SGB

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

FILE NAME

JOB No.

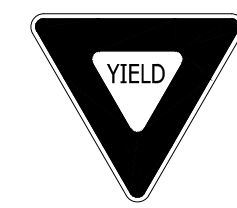
DATE 09/02/2020



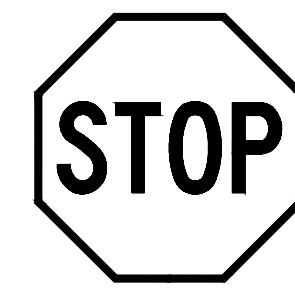
PROJECT NAME
TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS
DESCHUTES COUNTY

EXISTING SIGN DETAILS

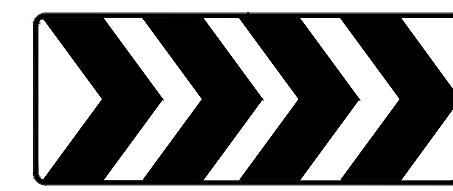
DRAWING NO.
27 OF 38
SS2



Sign 101



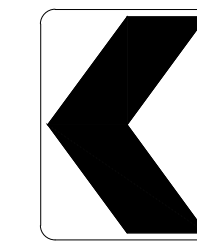
Sign 102



Sign 103



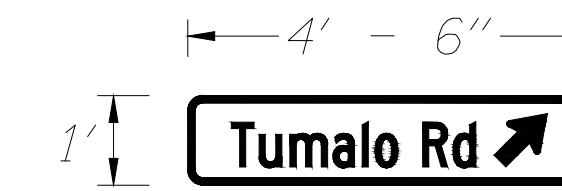
Sign 104



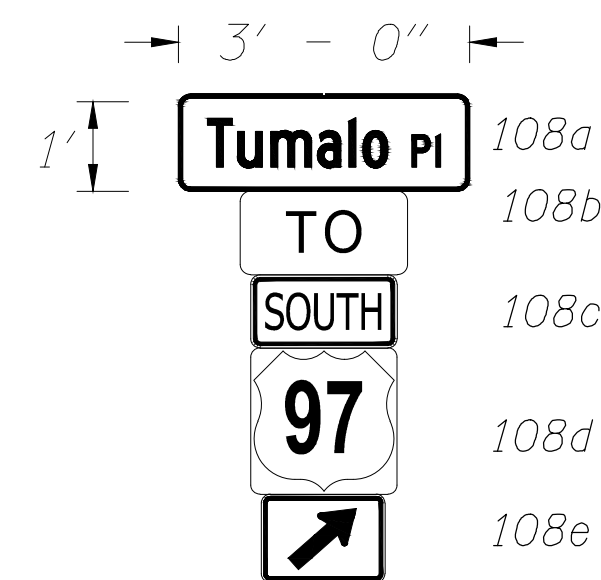
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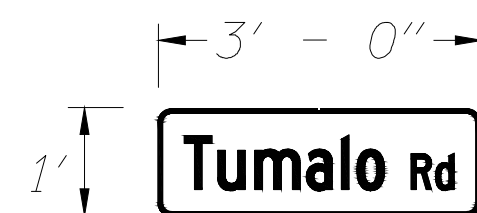
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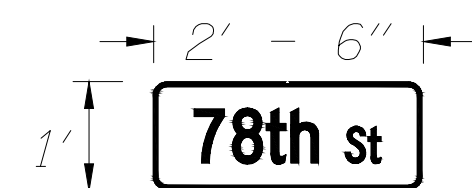
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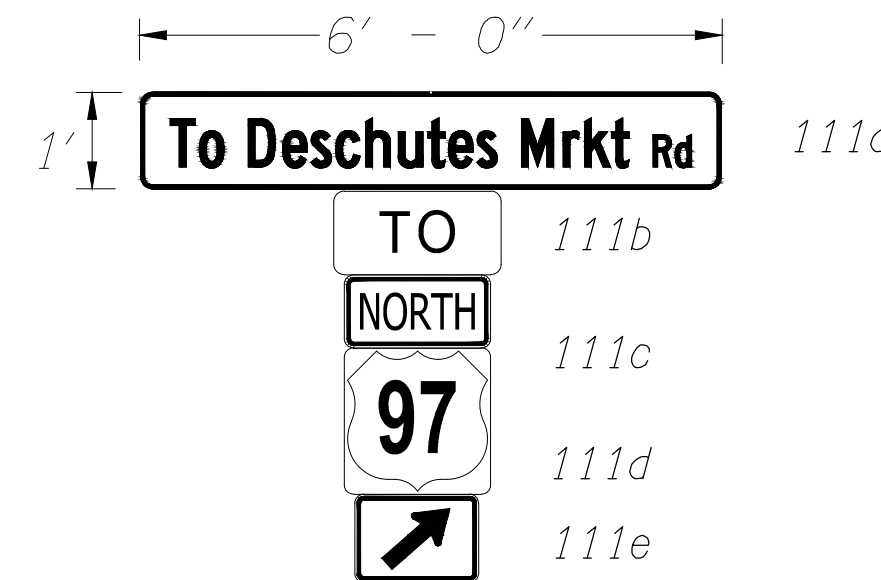
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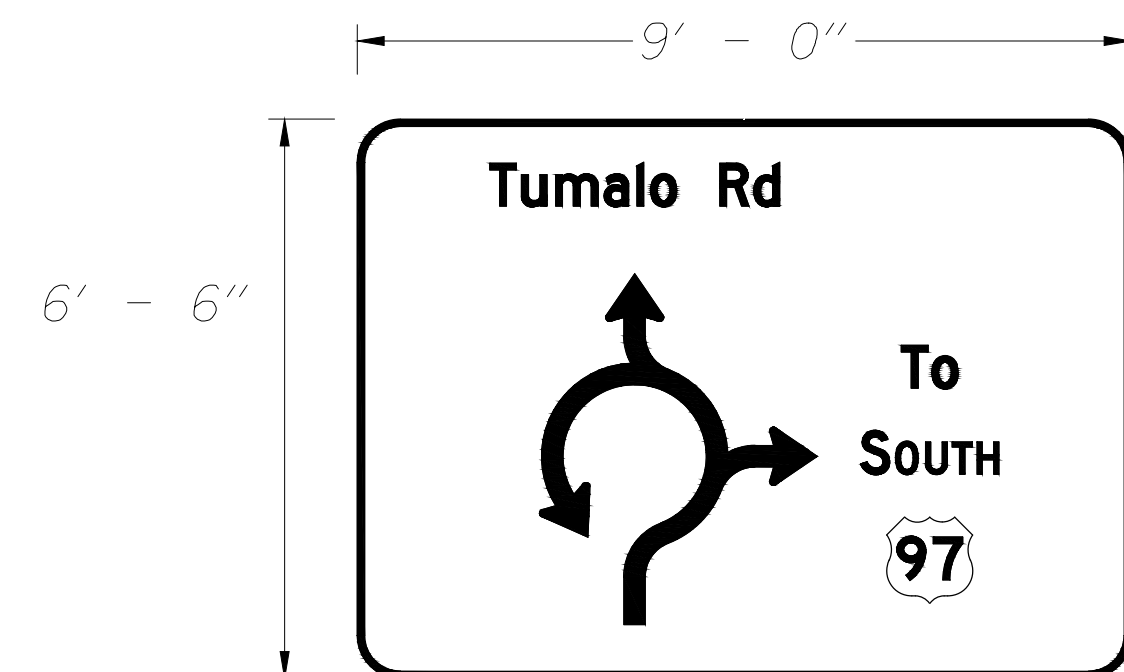
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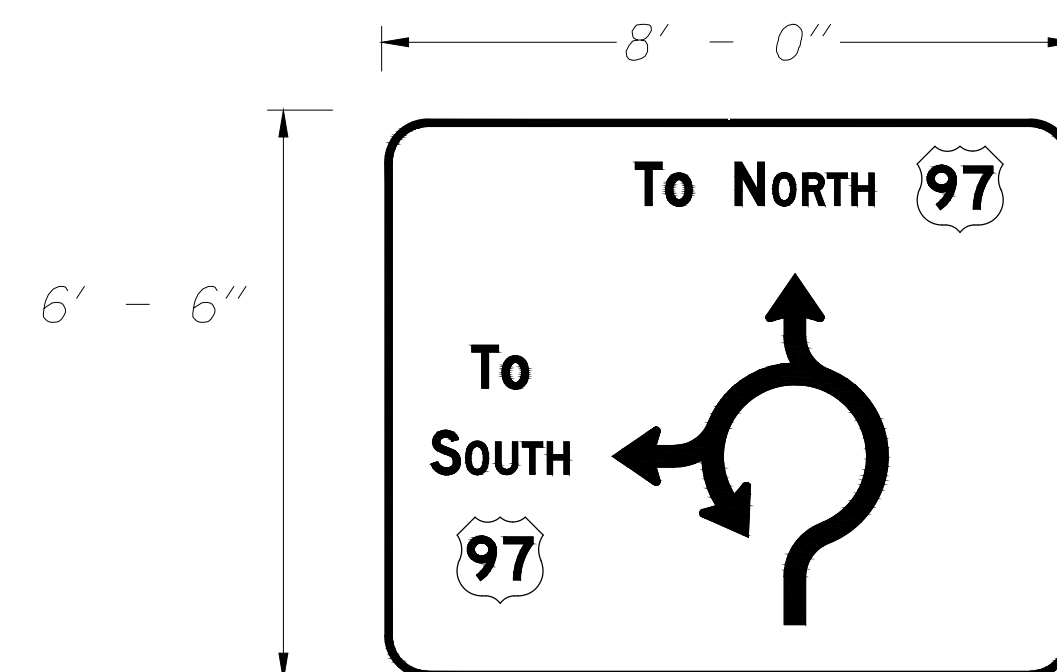
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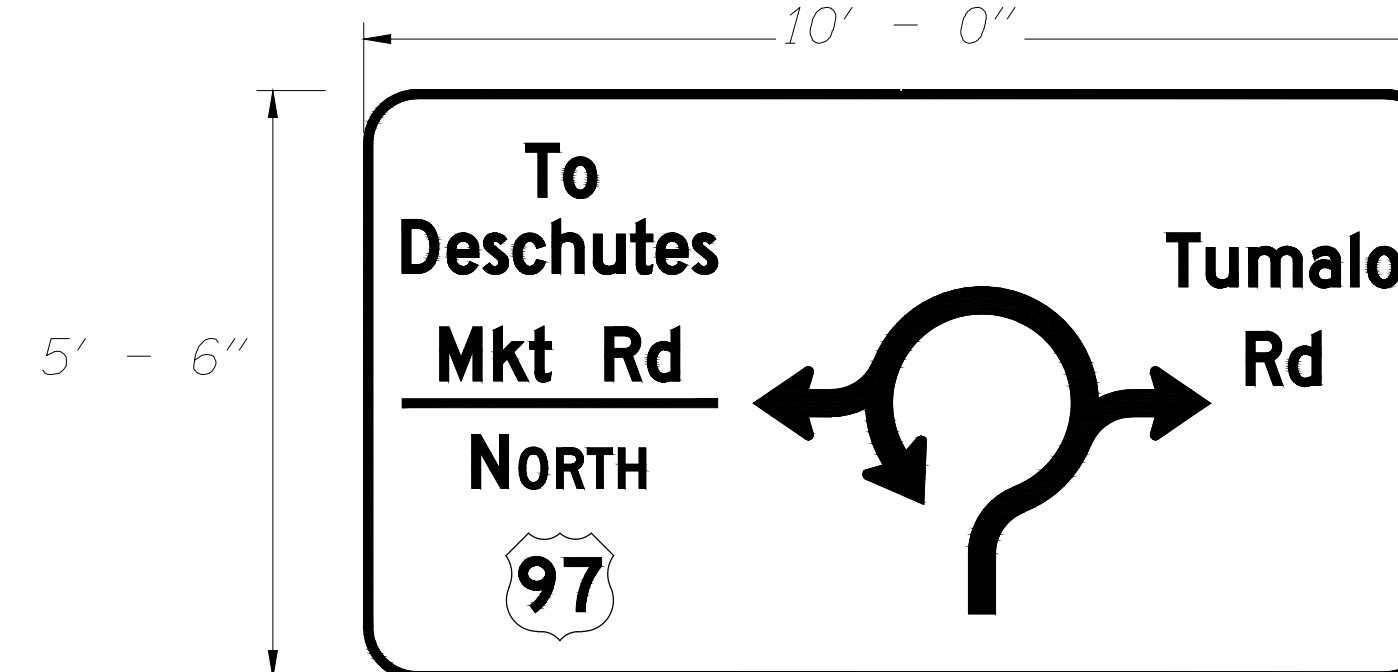
Sign 111



Sign 112



Sign 113



Sign 114



Sign 115

REVISIONS	DATE	BY	DESIGNED
			LTN
			DRAWN
			LTN
			CHECKED
			HJS
			APPROVED
			SGB

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

FILE NAME

JOB No.

DATE 09/02/2020



PROJECT NAME

TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS

DESCHUTES COUNTY

PROPOSED SIGN DETAILS

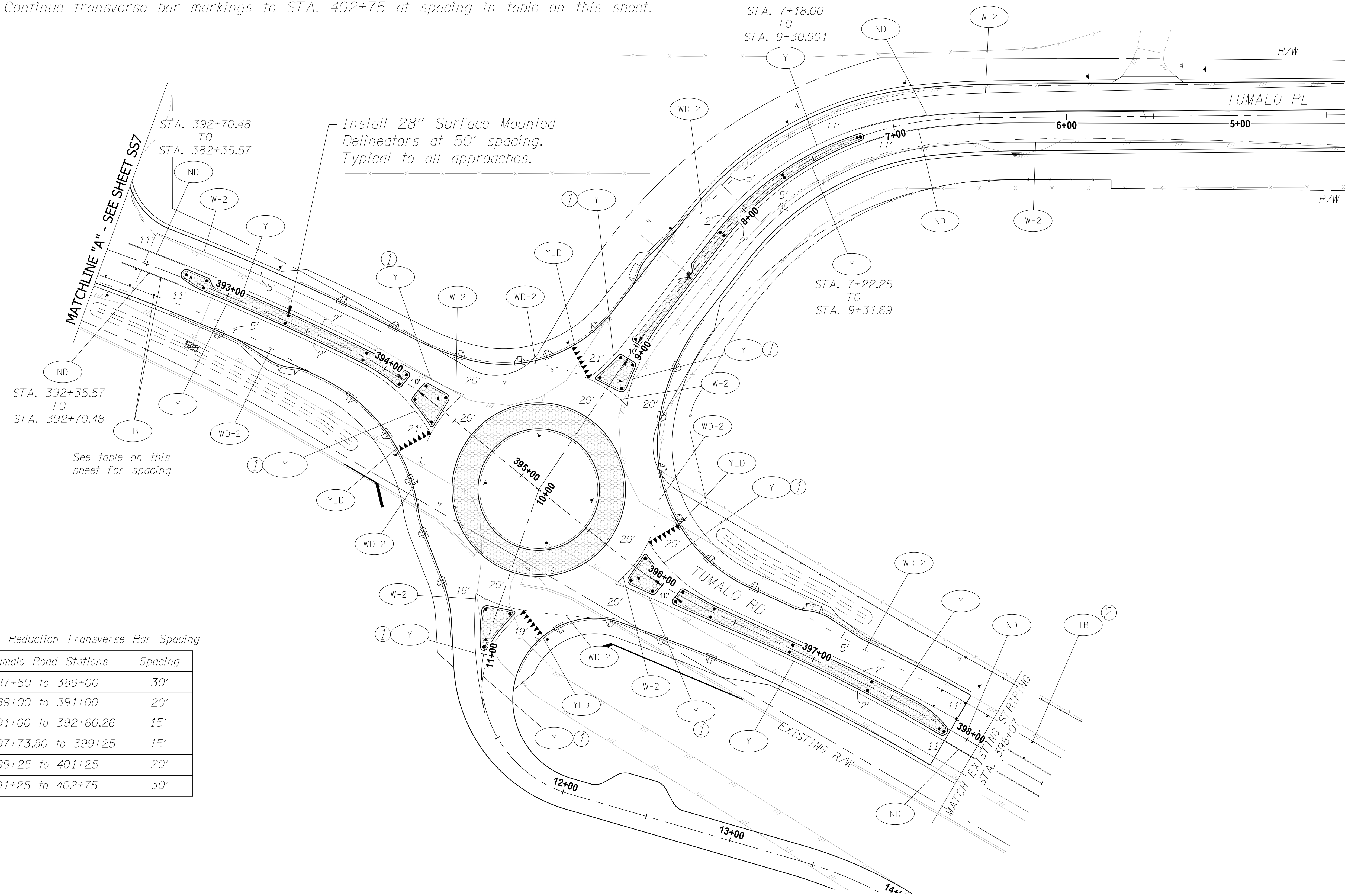
DRAWING NO
28 OF 38

SS3

CONSTRUCTION NOTES:

- ① End yellow line and begin white line at the end of island curb.
- ② Continue transverse bar markings to STA. 402+75 at spacing in table on this sheet.

STRIPING PLAN
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS



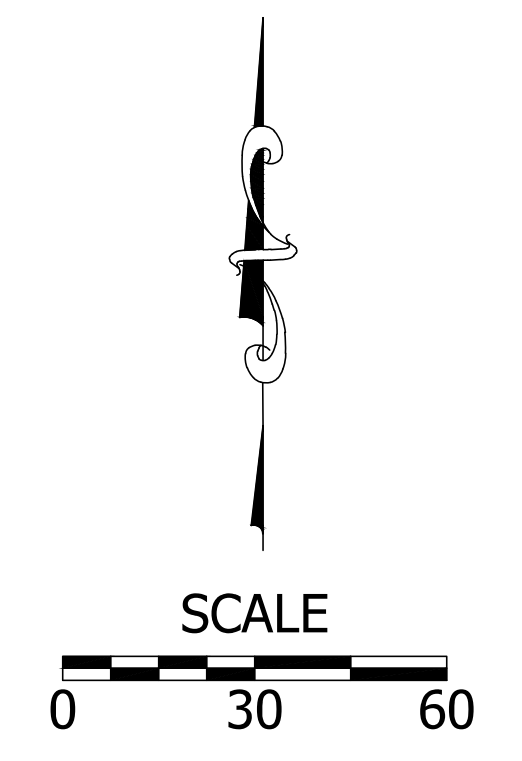
MATCHLINE "B" - SEE SHEET SS7
STA. 4+30.00 = STA. 90+52.43

STA. 392+35.57
TO
STA. 392+70.48

See table on this sheet for spacing

Speed Reduction Transverse Bar Spacing

Tumalo Road Stations	Spacing
387+50 to 389+00	30'
389+00 to 391+00	20'
391+00 to 392+60.26	15'
397+73.80 to 399+25	15'
399+25 to 401+25	20'
401+25 to 402+75	30'



REVISIONS	DATE	BY	DESIGNED LTN

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IF NOT, SCALE ACCORDINGLY**

FILE NAME
JOB No.
DATE
09/02/2020



PROJECT NAME
**TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS**
DESCHUTES COUNTY

STRIPING PLAN

DRAWING NO.
31 OF 38
SS6

STRIPING PLAN
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS



MATCHLINE "B" - SEE SHEET SS6
STA. 4+30.00 = STA. 90+52.43

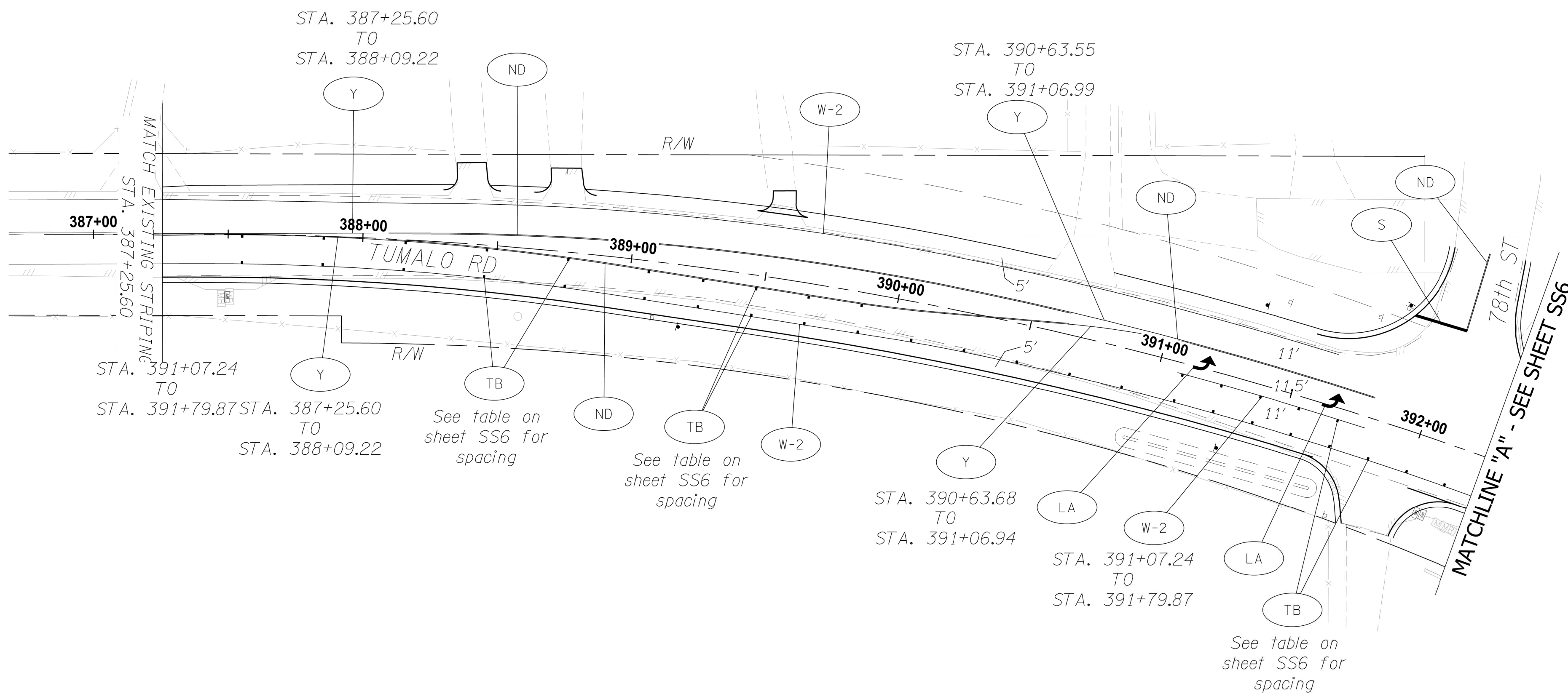
MATCHLINE "C" - SEE BELOW
STA. 82+00

STA. 85+61.13
TO
STA. 86+72.90

STA. 81+66.56
TO
STA. 82+35.62

STA. 81+26.90
TO
STA. 82+35.62

STA. 81+66.56
TO
STA. 82+35.62



STA. 387+25.60
TO
STA. 388+09.22

STA. 390+63.55
TO
STA. 391+06.99

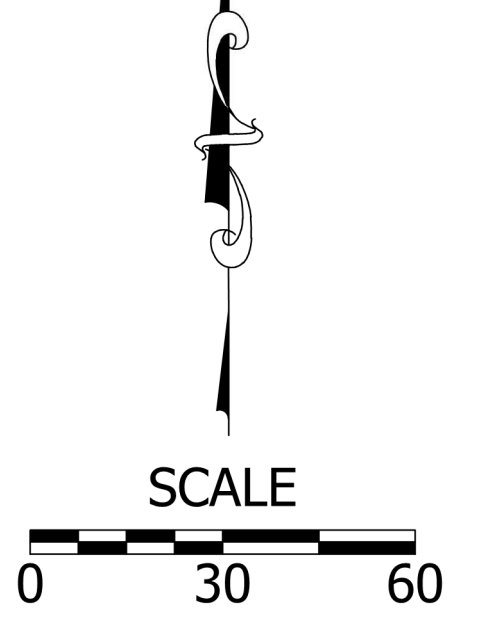
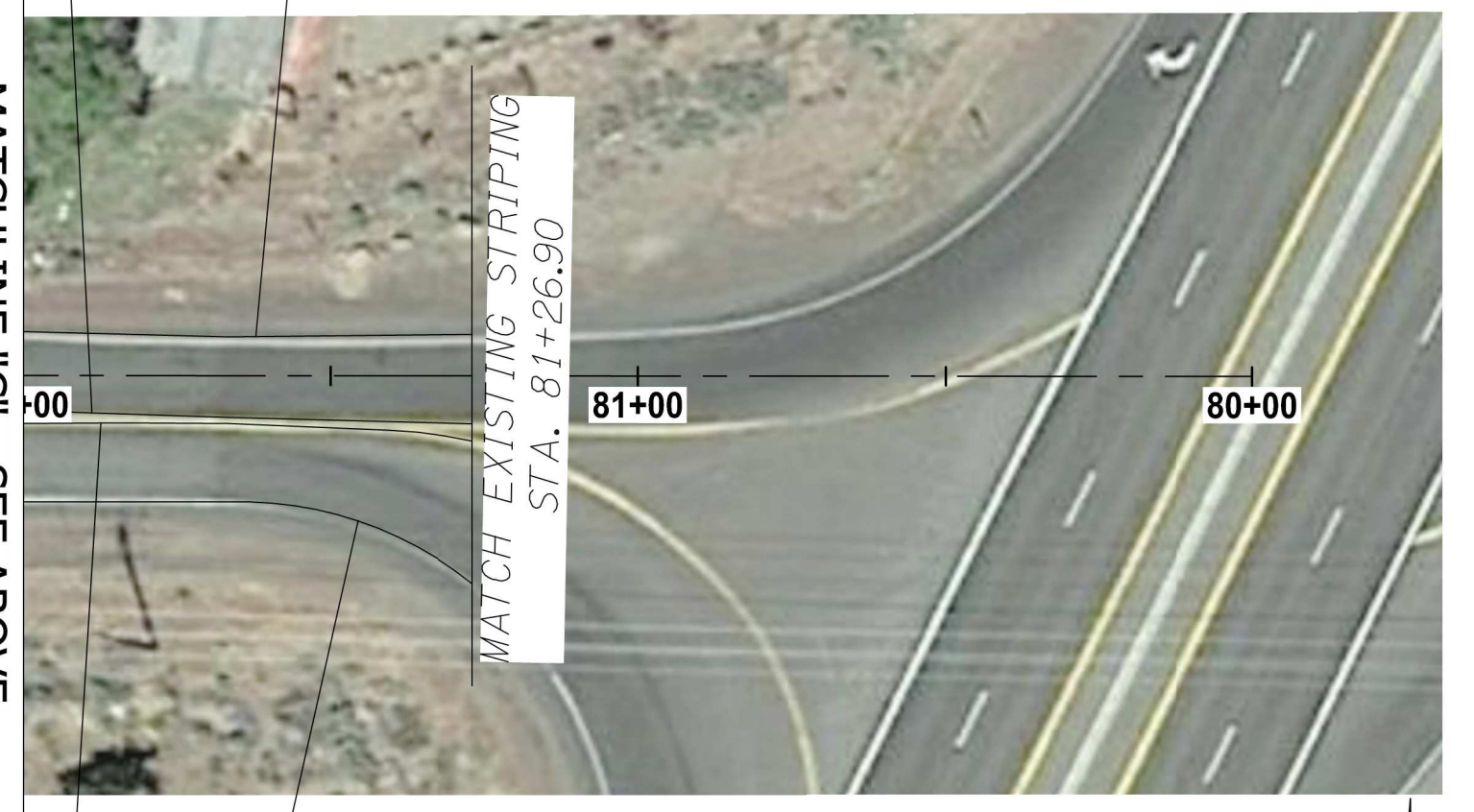
STA. 391+07.24
TO
STA. 391+79.87

STA. 390+63.68
TO
STA. 391+06.94

STA. 391+07.24
TO
STA. 391+79.87

MATCHLINE "C" - SEE ABOVE
STA. 82+00

STA. 81+26.90
TO
STA. 82+35.62



REVISIONS	DATE	BY	DESIGNED LTN

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

FILE NAME: _____
JOB No.: _____
DATE: 09/02/2020



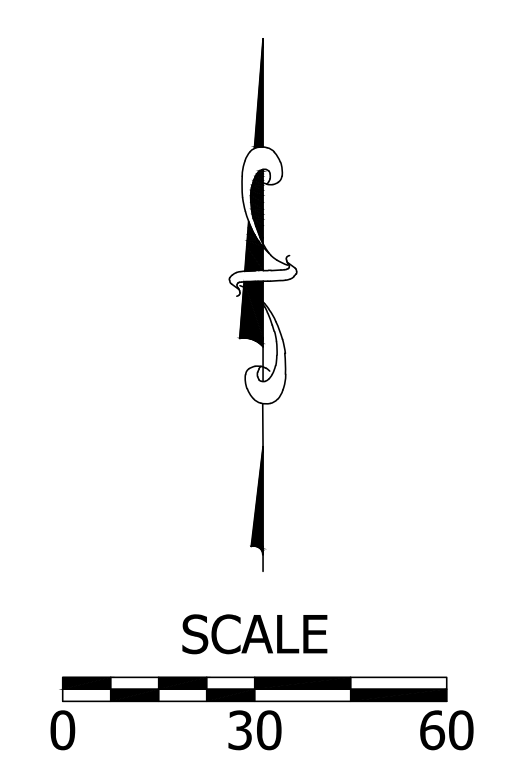
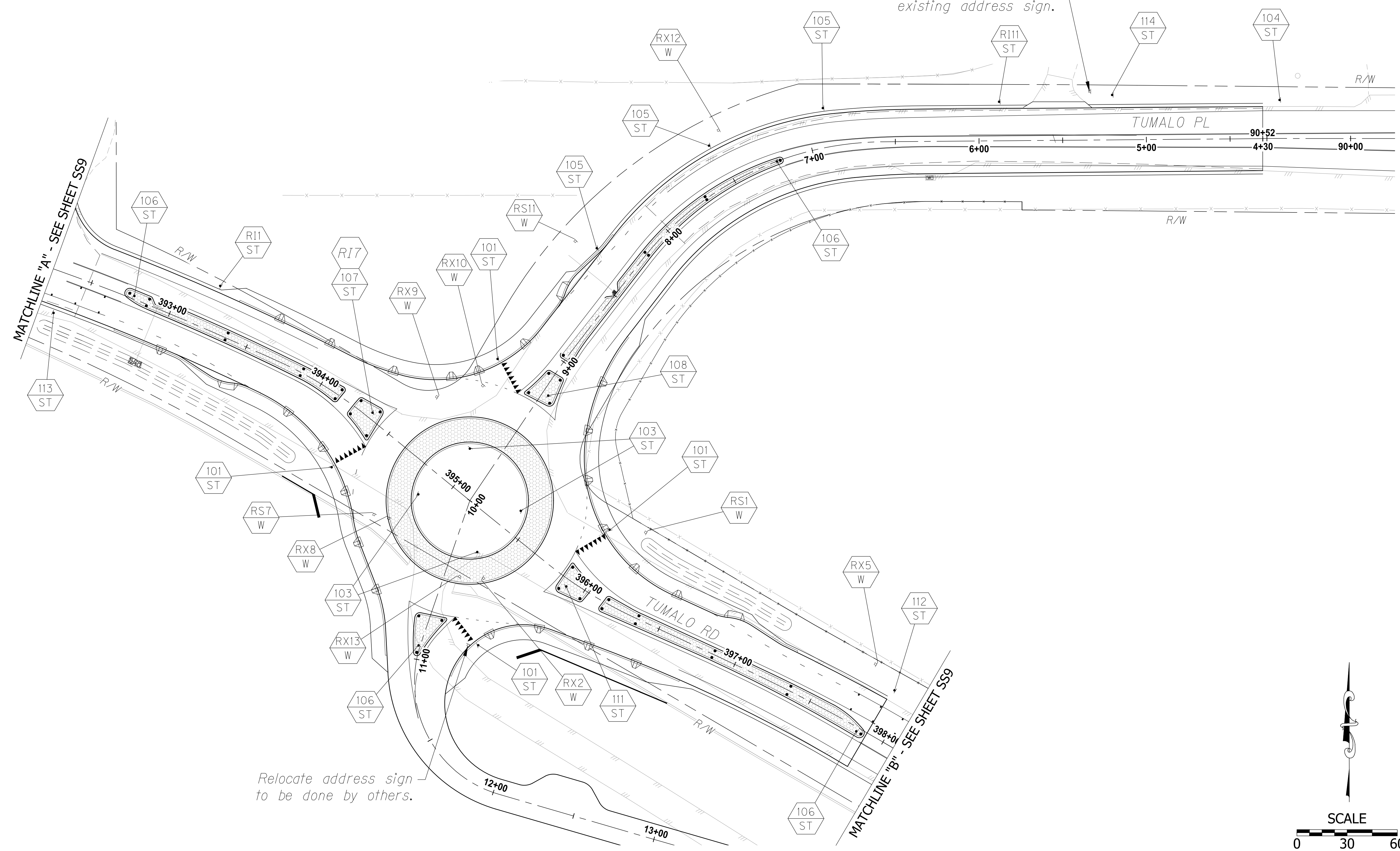
PROJECT NAME
**TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS**
DESCHUTES COUNTY

STRIPING PLAN

DRAWING NO.
32 OF 38
SS7

SIGNING PLAN
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS

Maintain and protect existing address sign.



REVISIONS	DATE	BY	DESIGNED
			LTN
			DRAWN
			LTN
			CHECKED
			HJS
			APPROVED
			SGB

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IF NOT, SCALE ACCORDINGLY

FILE NAME

JOB No.

DATE 09/02/2020



PROJECT NAME

TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS

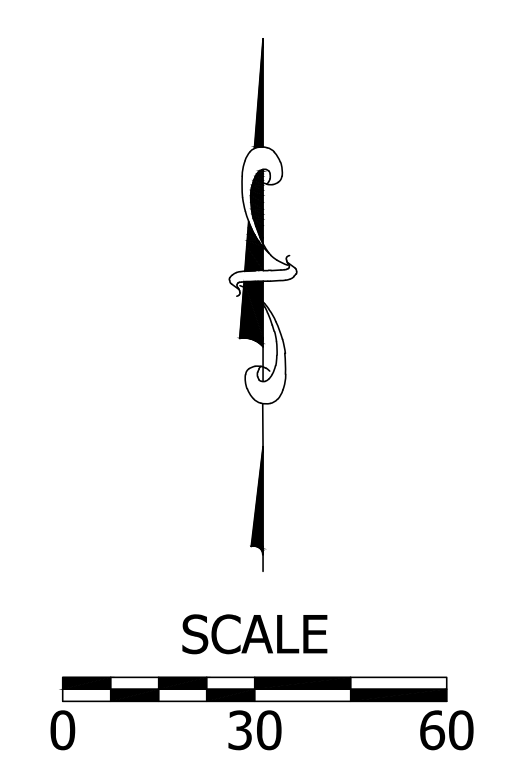
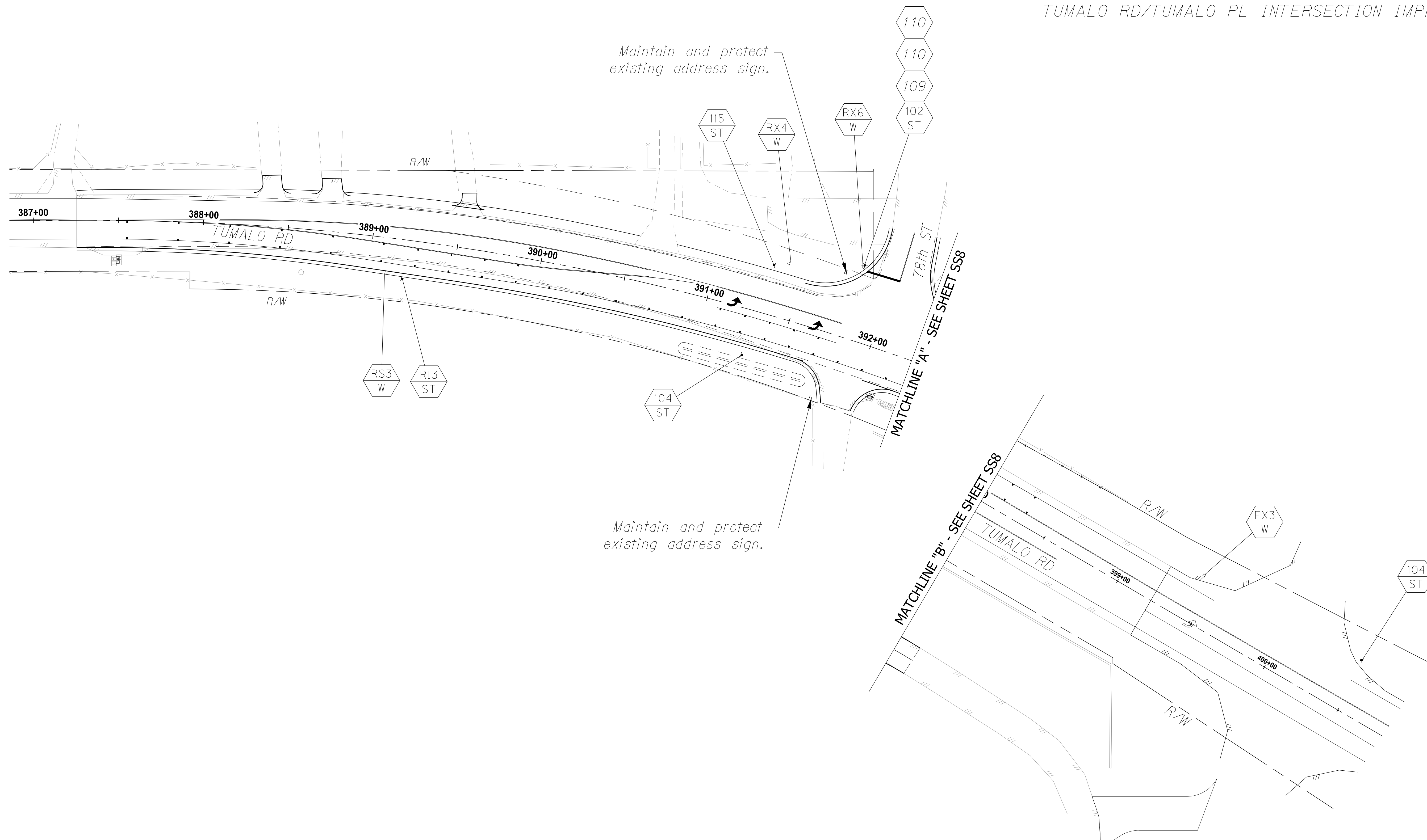
DESCHUTES COUNTY

SIGNING PLAN

DRAWING NO.
33 OF 38

SS8

SIGNING PLAN
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS



REVISIONS	DATE	BY	DESIGNED
			LTN
			LTN
			HJS
			SGB

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FILE NAME

JOB No.

DATE 09/02/2020



PROJECT NAME

TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS

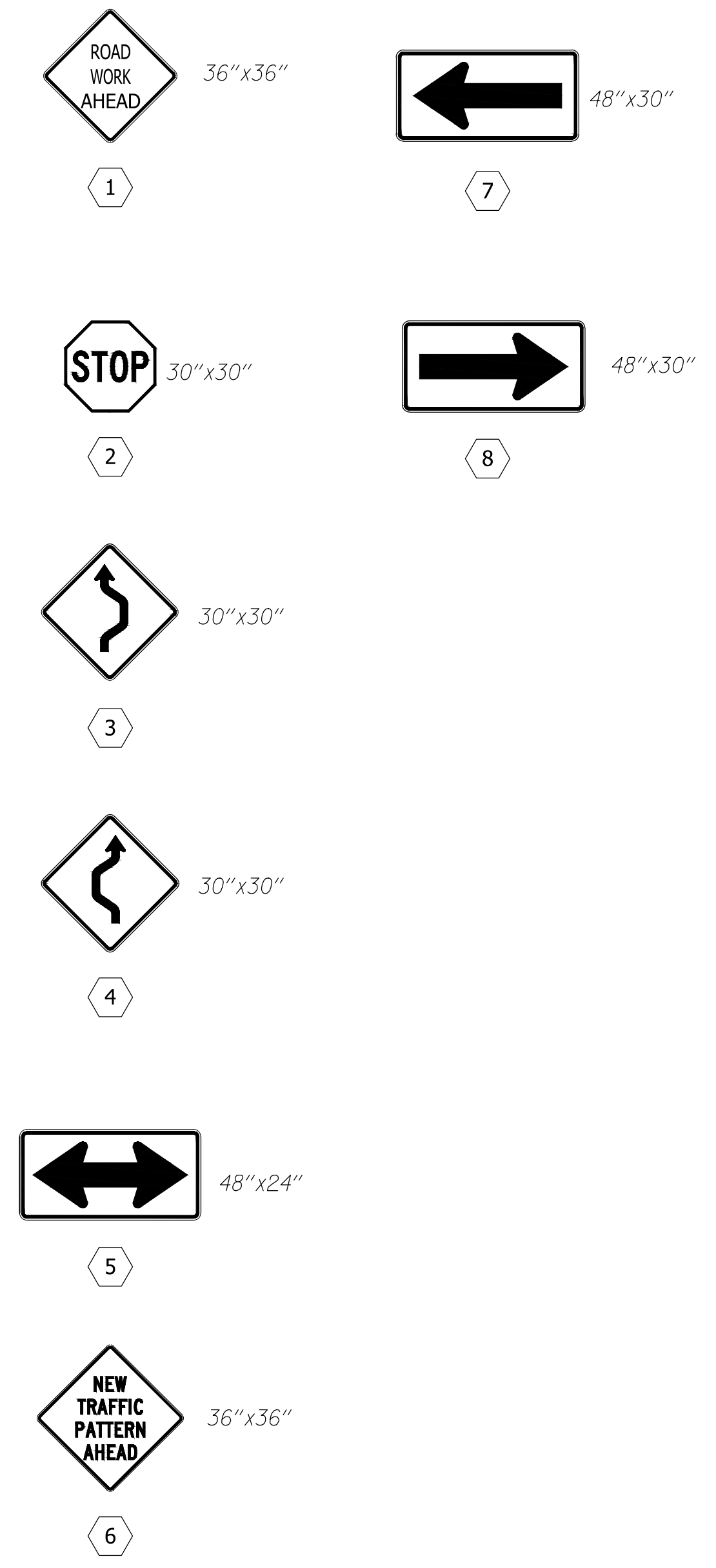
DESCHUTES COUNTY

SIGNING PLAN

DRAWING NO.
34 OF 38

SS9

TEMPORARY SIGNING PLAN - STAGE 2-4
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS



GENERAL NOTES

1. All sign dimensions listed in inches unless otherwise noted.
2. Maintain and protect existing signs.
3. Ensure a minimum of 100' spacing between existing and temporary signs.

LEGEND

- Type III Barricade
- I TSS Sign Support As Shown On ODOT Standard Dwg. TM821
- Post Mounted Detour Sign

CONSTRUCTION NOTES

- ① Portable changeable message signs to remain on project throughout construction and be located as directed.
- ② Install signs for flagging operations during Stage 3 as needed.

REVISIONS	DATE	BY	DESIGNED LTN
			DRAWN LTN
			CHECKED HJS
			APPROVED SGB

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

FILE NAME: _____

JOB No. _____

DATE: 09/02/2020



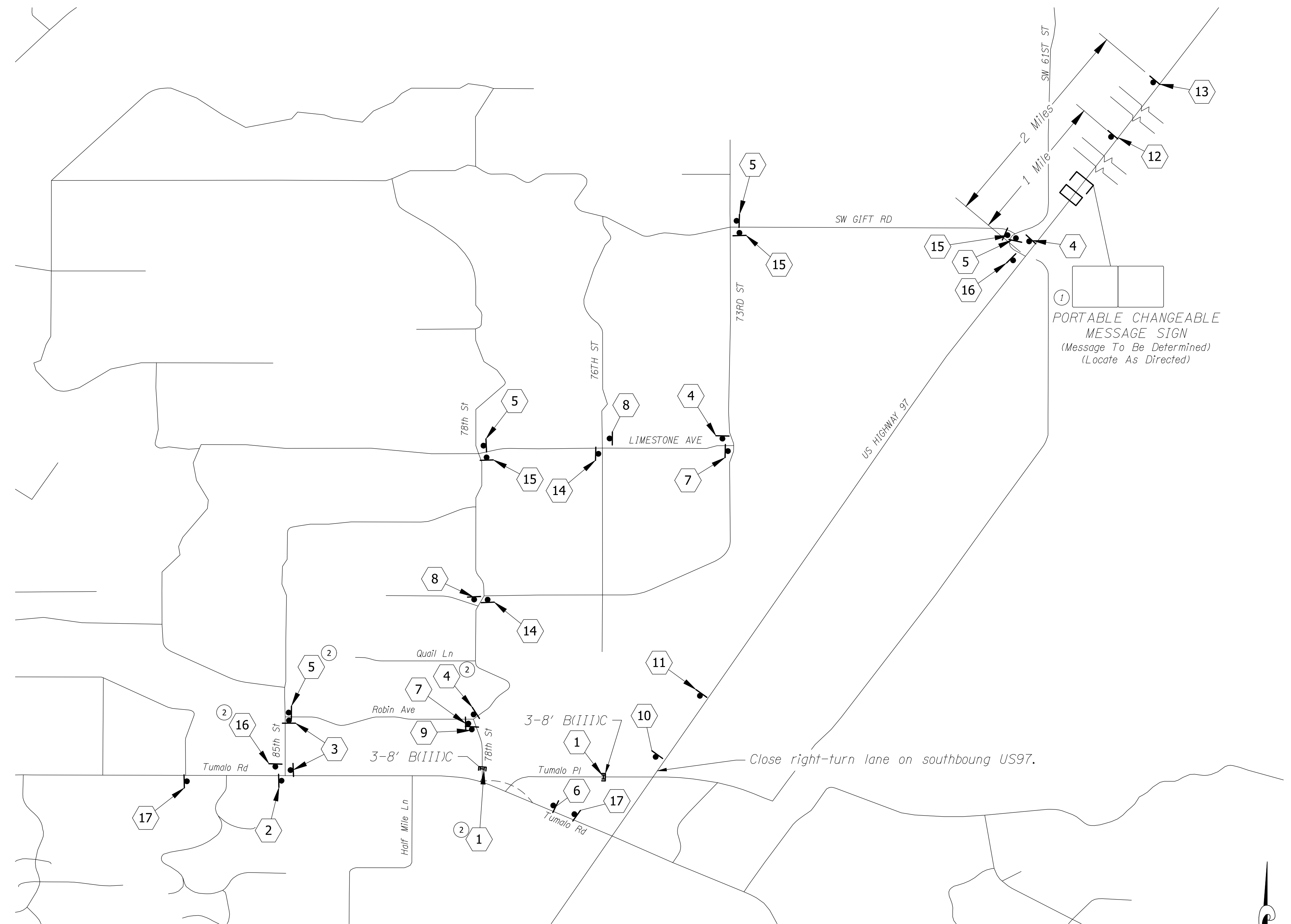
PROJECT NAME
**TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS**
DESCHUTES COUNTY

**TEMPORARY SIGNING PLAN -
STAGE 2-4**

DRAWING NO.
35 OF 38
SS10

TEMPORARY SIGNING PLAN - STAGE 5
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS

ROAD CLOSED 48"x30" ①	DETOUR 24"x12" 97 24"x24" SOUTH 24"x12" ← 21"x15" ⑦	DETOUR AHEAD 36"x36" 2 MILES 30"x12" Tumalo Rd 30"x7" ⑬
DETOUR 24"x12" 78th St 24"x7" 97 24"x24" SOUTH 24"x12" ← 21"x15" ②	DETOUR 24"x12" Tumalo Rd 30"x7" ↑ 21"x15" ⑧	DETOUR 24"x12" 97 24"x24" SOUTH 24"x12" ↑ 21"x15" ⑭
DETOUR 24"x12" 78th St 24"x7" 97 24"x24" SOUTH 24"x12" → 21"x15" ③	ROAD CLOSED TO THRU TRAFFIC LOCAL ACCESS ONLY 60"x30" ⑨	DETOUR 24"x12" 97 24"x24" SOUTH 24"x12" → 21"x15" ⑮
DETOUR 24"x12" Tumalo Rd 30"x7" → 21"x15" ④	ROAD CLOSED 48"x30" 1000 FT 24"x12" Tumalo Rd 30"x7" ⑩	End Detour 30"x24" ⑯
DETOUR 24"x12" Tumalo Rd 30"x7" ← 21"x15" ⑤	ROAD CLOSED 48"x30" 1/2 MILE 30"x12" Tumalo Rd 30"x7" ⑪	ROAD CLOSED AHEAD ⑰
DETOUR 24"x12" 78th St 24"x7" 97 24"x24" SOUTH 24"x12" ↑ 21"x15" ⑥	DETOUR AHEAD 36"x36" 1 MILE 30"x12" Tumalo Rd 30"x7" ⑫	



LEGEND

- Type III Barricade
- I TSS Sign Support As Shown On ODOT Standard Dwg. TM821
- Post Mounted Detour Sign

GENERAL NOTES

1. All sign dimensions listed in inches unless otherwise noted.
2. Maintain and protect existing signs.
3. Ensure a minimum of 100' spacing between existing and temporary signs.
4. Detour signs shall be covered or turned when detours are not active.

CONSTRUCTION NOTES

- ① Portable changeable message signs to remain on project throughout construction and be located as directed.
- ② When 78th St tie-in to Tumalo Rd is complete, remove detour signage on Robin Ave and direct traffic down from 78th St to Tumalo Rd.

REVISIONS	DATE	BY	DESIGNED
			LTN
			LTN
			HJS
			SGB

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JOB No.: _____
DATE: 09/02/2020










PROJECT NAME
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS
DESCHUTES COUNTY

TEMPORARY SIGNING PLAN - STAGE 5

DRAWING NO.
36 OF 38
SS11

L E G E N D

-  Install Pacific Power approved street light foundation.
-  Install junction box (pedestal) provided by Pacific Power.
-  Pacific Power to furnish and install new Pacific Power approved street light. Street light pole shall be Valmont anchor base aluminum alloy light pole Model No. 270B45806T4/2MA0832b45 and street light shall be American Electric Model: ATB0 30BLEDE13 MVOLT R3 3K.
-  Light pole number (XX), see "Street Light Pole Schedule".
-  Install poly pull line (500# minimum strength).
-  Install (S) inch electrical gray grade sch 40 pvc conduit.
-  Power source for 120/240 volt, single phase.

ILLUMINATION LEGEND
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS

G E N E R A L N O T E S

1. All illumination related work other than pole foundation shall be paid for at the contract price for "Switching, conduit, and wiring - Lump Sum."
2. Foundations, junction boxes, and conduit shall be installed at locations shown on plans. If conflicts arise, foundation, junction box, and conduit locations may be modified in the field per engineer's approval. All lighting equipment must be placed within the right-of-way. Place conduit in same trench as other conduits whenever possible.
3. Location of all existing utilities shall be verified prior to beginning any work. Coordinate all work with utility companies to eliminate conflicts.
4. All proposed street lighting junction boxes, conduits, pull ropes, and concrete foundations shall be installed by contractor per Pacific Power requirements. Refer to Pacific Power 2011 Electric Service Requirements, 2nd Edition.
5. All street light poles, luminaire arms, luminaires, lamps, and wiring shall be furnished and installed by Pacific Power. All junction boxes shall be furnished by Pacific Power and installed by the contractor.
6. Final light pole location(s) shall be approved in the field by the engineer prior to foundation installation.
7. This illumination plans set is accompanied by Oregon Standard Drawing TM472.
8. All conduit elbows shall be factory made and be long radius 36". For conduit runs longer than 150' or containing more than 270 degrees of bends, elbows shall be fiberglass.
9. Contractor to coordinate with Pacific Power ten (10) business days in advance of commencing illumination work. Contact Ryan Coburn at (541) 388-7129.
10. All conduit runs shall be approved by Pacific Power before backfill.
11. Cover and protect all new light pole foundations.

S T R E E T L I G H T P O L E S C H E D U L E

POLE NO.	STREET	STATION	OFFSET*	LUMINAIRE ARM LENGTH (FT)	LAMP	LUMINAIRE MOUNTING HEIGHT (FT)	TYPE	NOTES
1	Tumalo Rd	387+55.06	21.1' RT	8'	LED	25'	III	126 Watts
2	Tumalo Rd	389+03.46	27.5' LT	8'	LED	25'	III	126 Watts
3	Tumalo Rd	390+19.86	24.8' RT	8'	LED	25'	III	126 Watts
4	Tumalo Rd	391+32.78	25.0' RT	8'	LED	25'	III	126 Watts
5	Tumalo Rd	392+29.91	40.8' LT	8'	LED	25'	III	126 Watts
6	Tumalo Rd	393+47.90	31.2' RT	8'	LED	25'	III	126 Watts
7	Tumalo Rd	394+90.05	79.5' RT	8'	LED	25'	III	126 Watts
8	Tumalo Rd	394+33.96	43.2' LT	8'	LED	25'	III	126 Watts
9	Tumalo Rd	395+49.60	80.2' LT	8'	LED	25'	III	126 Watts
10	Tumalo Rd	395+96.00	41.0' RT	8'	LED	25'	III	126 Watts
11	Tumalo Rd	396+40.06	32.3' LT	8'	LED	25'	III	126 Watts
12	Tumalo Rd	397+62.25	27.9' LT	8'	LED	25'	III	126 Watts
13	Tumalo Rd	398+92.74	28.3' LT	8'	LED	25'	III	126 Watts
14	Tumalo Pl	4+90.84	24.0' RT	8'	LED	25'	III	126 Watts
15	Tumalo Pl	6+23.16	24.2' LT	8'	LED	25'	III	126 Watts
16	Tumalo Pl	7+57.41	27.0' RT	8'	LED	25'	III	126 Watts
17	Tumalo Pl	8+75.93	32.6' RT	8'	LED	25'	III	126 Watts
18	Tumalo Pl	11+14.09	28.8' LT	8'	LED	25'	III	126 Watts

* Offset measured from roadway centerline.

I N T E R S E C T I O N L I G H T L E V E L S U M M A R Y

INTERSECTION	CLASSIFICATION		LIGHT LEVEL	UNIFORMITY	LIGHT LOSS FACTOR	BUG RATING
Tumalo Rd at Tumalo Pl Roundabout	Collector/Collector	Target	≥ 1.1 fc	≤ 4 : 1	0.85	B2 U0 G2
		Design	1.7 fc	2.9 : 1		
Tumalo Rd at 78th St	Collector/Local	Target	≥ 0.9 fc	≤ 4 : 1	0.85	B2 U0 G2
		Design	1.5 fc	2.9 : 1		

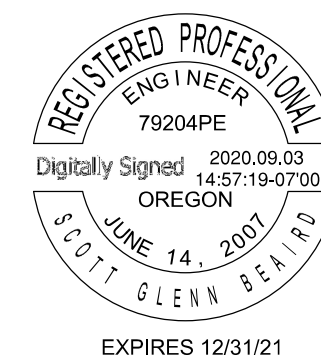
R O A D W A Y L I G H T L E V E L S U M M A R Y

ROADWAY	CLASSIFICATION, PEDESTRIAN CONFLICT		LIGHT LEVEL	AVERAGE UNIFORMITY	LIGHT LOSS FACTOR	BUG RATING
Tumalo Rd - East Leg	Collector, Low	Target	≥ 0.6 fc	≤ 5.5 : 1	0.85	B2 U0 G2
		Design	1.4 fc	2.3 : 1		
Tumalo Rd - West Leg	Collector, Low	Target	≥ 0.6 fc	≤ 5.5 : 1	0.85	B2 U0 G2
		Design	1.4 fc	3.5 : 1		
Tumalo Pl - North Leg	Collector, Low	Target	≥ 0.6 fc	≤ 5.5 : 1	0.85	B2 U0 G2
		Design	1.4 fc	2.8 : 1		

REVISIONS	DATE	BY	DESIGNED
			LTN
			DRAWN
			LTN
			CHECKED
			HJS
			APPROVED
			SGB

**ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY**

FILE NAME: _____
JOB No.: _____
DATE: 09/02/2020



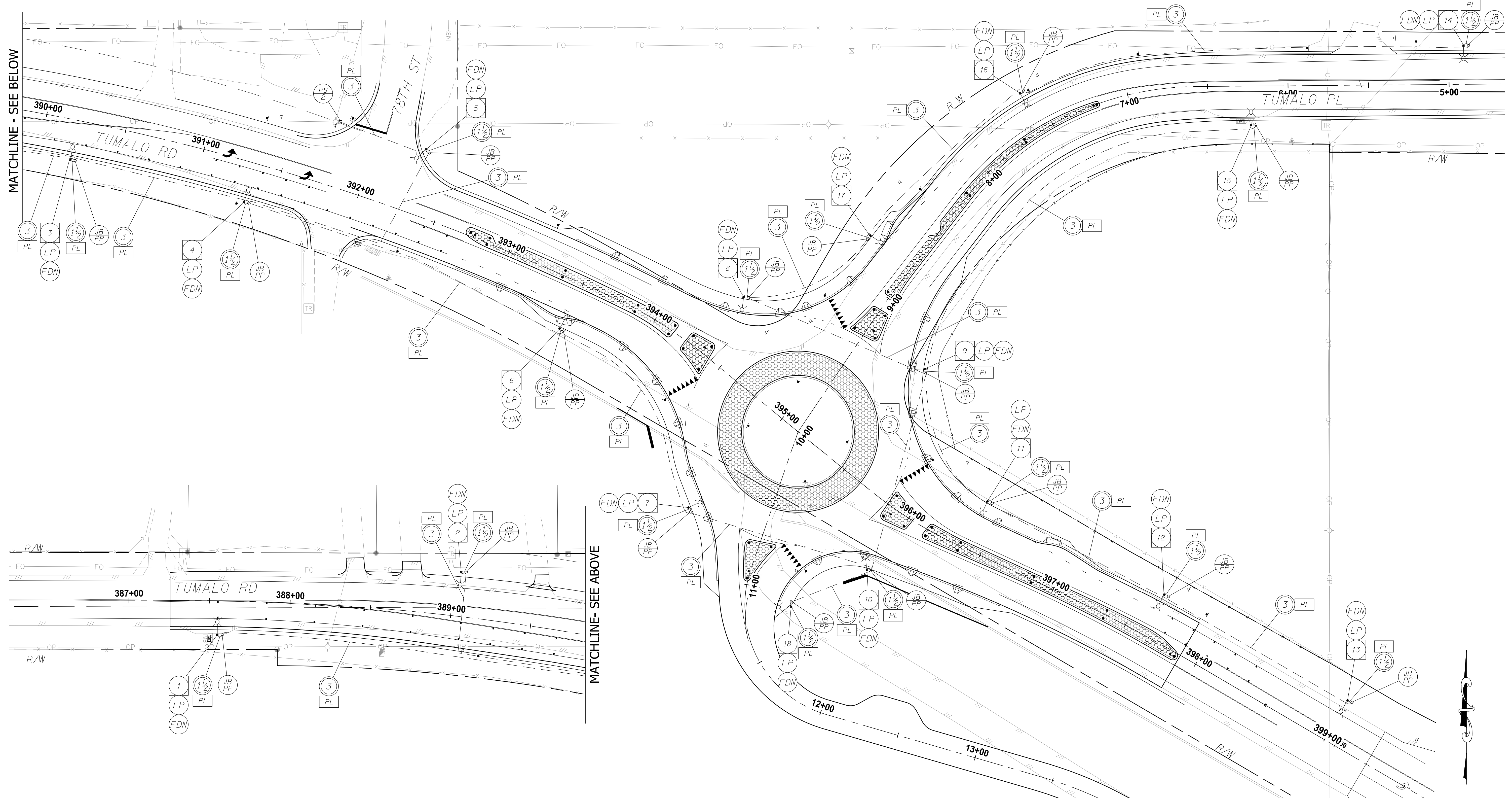
PROJECT NAME
**TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS**
DESCHUTES COUNTY

ILLUMINATION LEGEND

DRAWING NO.
37 OF 38

IL1

TUMALO RD & TUMALO PL INTERSECTION ILLUMINATION PLAN
TUMALO RD/TUMALO PL INTERSECTION IMPROVEMENTS



MATCHLINE - SEE BELOW

MATCHLINE- SEE ABOVE

REVISIONS	DATE	BY	DESIGNED LTN

ONE INCH AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

FILE NAME: _____
JOB No.: _____
DATE: 09/02/2020



PROJECT NAME
**TUMALO RD/TUMALO PL
INTERSECTION IMPROVEMENTS**
DESCHUTES COUNTY

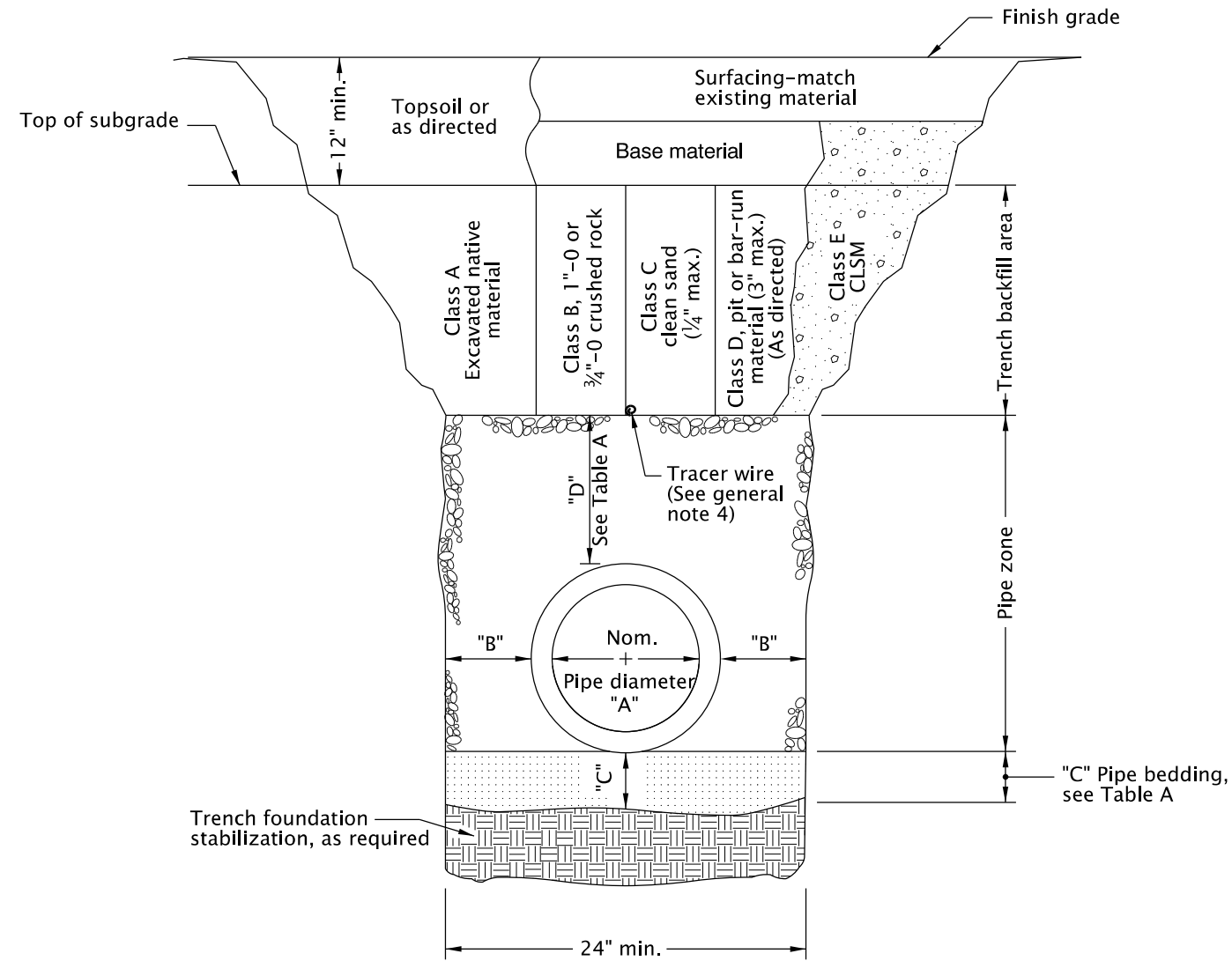
**TUMALO RD & TUMALO PL INTERSECTION
ILLUMINATION PLAN**

DRAWING NO.
38 OF 38
IL2

TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter, see general note 3.



MULTIPLE INSTALLATIONS	
DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (1/2) dia. of pipe

GENERAL NOTES FOR ALL DETAILS:

1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is ≥ 36 " diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
4. See Std. Dwg. RD336 for tracer wire details (When required).

CALC. BOOK NO. N/A

BASELINE REPORT DATE 14-JUL-2014

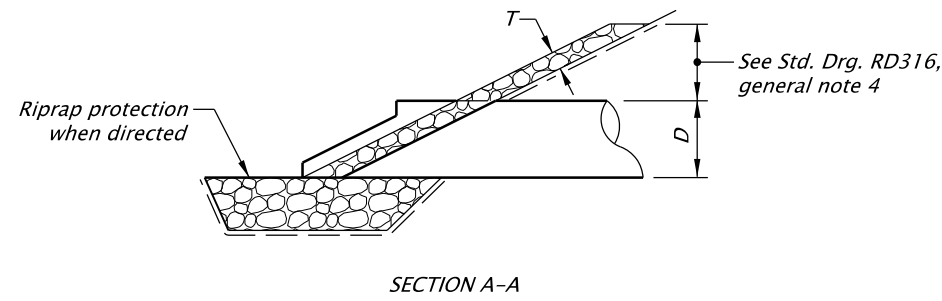
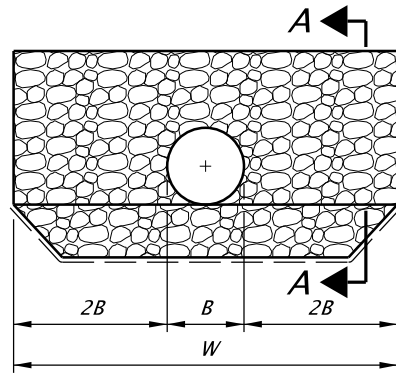
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

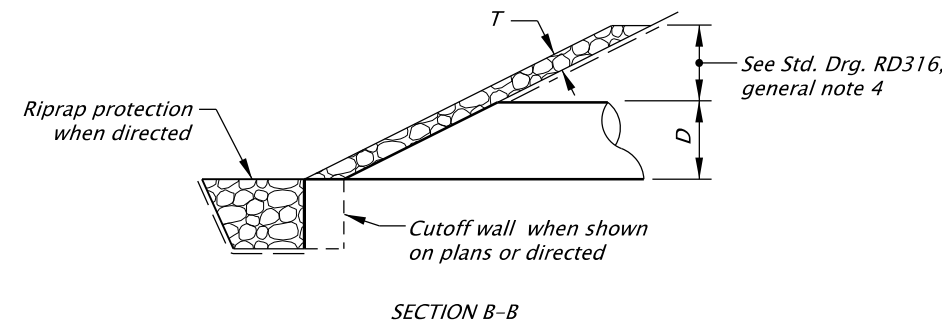
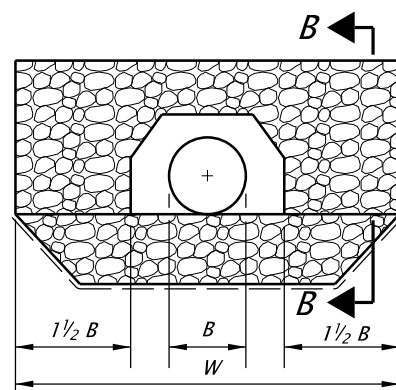
**OREGON STANDARD DRAWINGS
TRENCH BACKFILL, BEDDING,
PIPE ZONE AND MULTIPLE
INSTALLATIONS**

2018

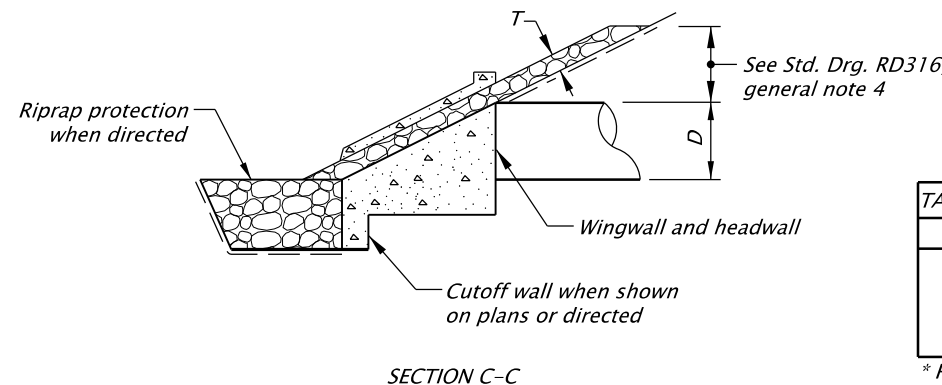
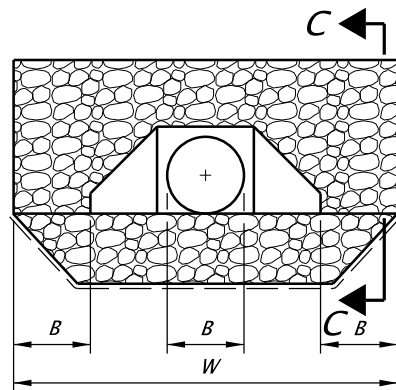
DATE	REVISION	DESCRIPTION



SLOPED OR PROJECTING END



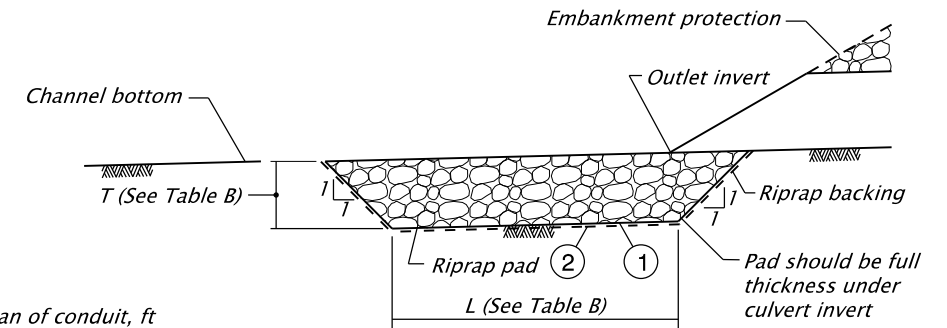
SLOPED END WITH SLOPE PAVING



HEADWALL AND WINGWALLS

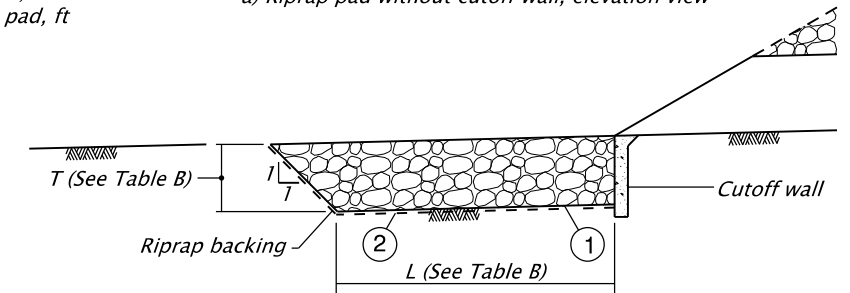
B = Diameter of circular barrel or span of arch pipe, box, or open-bottom arch.
 D = Diameter of circular barrel or rise of arch pipe, box, or open-bottom arch.
 T = Thickness of riprap blanket, see Table A.

EMBANKMENT PROTECTION

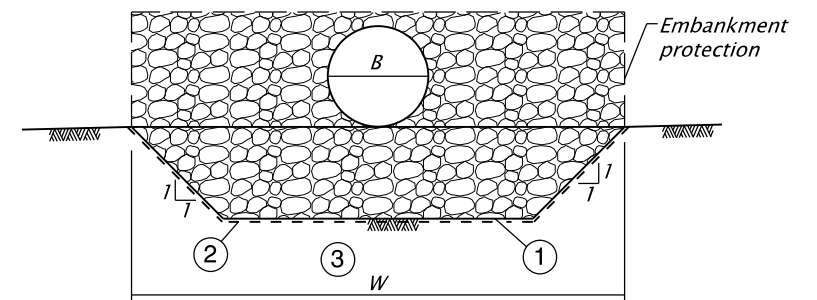


B = Diameter or span of conduit, ft
 L = Length of bottom of riprap pad, ft
 T = Thickness of riprap pad, ft
 W = Width of top of riprap pad, ft

a) Riprap pad without cutoff wall, elevation view



b) Riprap pad with cutoff wall, elevation view



c) Riprap pad, end view

RIPRAP PADS

RIPRAP PAD NOTES:

- 1 Do not excavate non-erodible rock in order to place riprap.
- 2 Use riprap backing under Class 200 and Class 700 loose riprap.
- 3 Top width (W) of the riprap pad is the larger of 5B or the width of the embankment slope protection.

GENERAL NOTES FOR ALL DETAILS:

1. See Std. Drg's. RD300 & RD304 for installation details.
2. Open ends of pipes normally require a site specific design, and may require special treatment (sloped ends, culvert embankment protection, paved end slopes, safety end sections, or other measures). See special details or Standard Drawings as called for on plans.

Riprap Class	T Distance
50	12 Inches
100	18 Inches
200	24 Inches *
700	36 Inches *

* Riprap backing required between riprap and embankment

Riprap Class	L* (ft)	T (ft)
50	4B or 1.3	2.3
100	4B or 1.6	3.3
200	4B or 2.0	4.3
700	4B or 3.3	5.6

* L is the greater of 4B or the listed dimension.

CALC. BOOK NO. _____ N/A _____ BASELINE REPORT DATE 24-Nov-2015

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

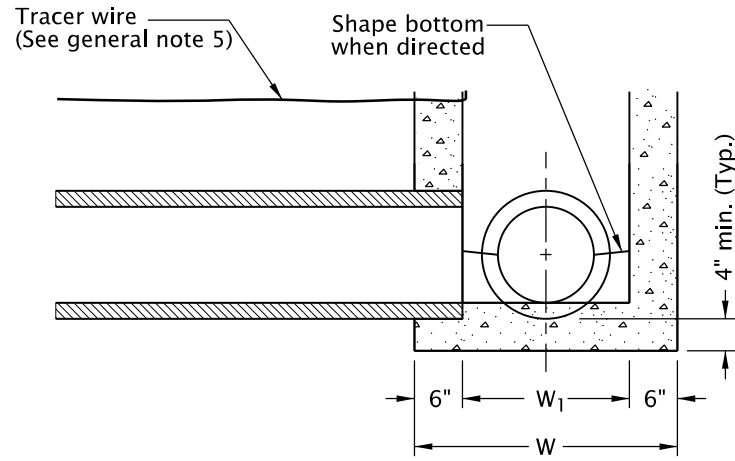
OREGON STANDARD DRAWINGS
 CULVERT EMBANKMENT PROTECTION and RIPRAP PADS

2018

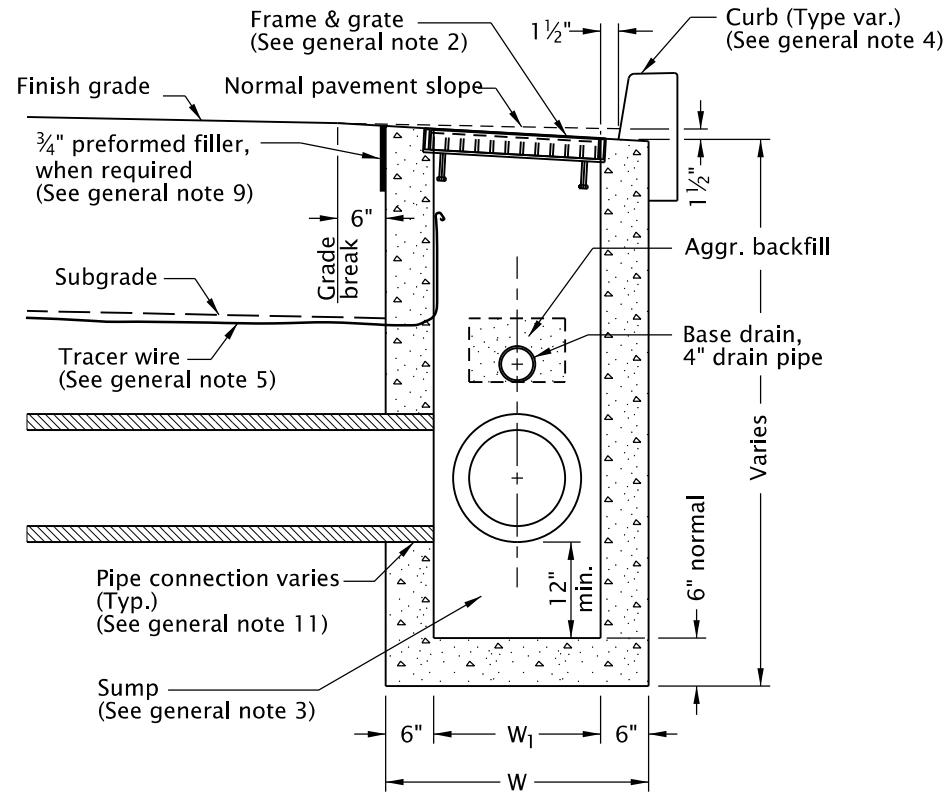
DATE	REVISION	DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

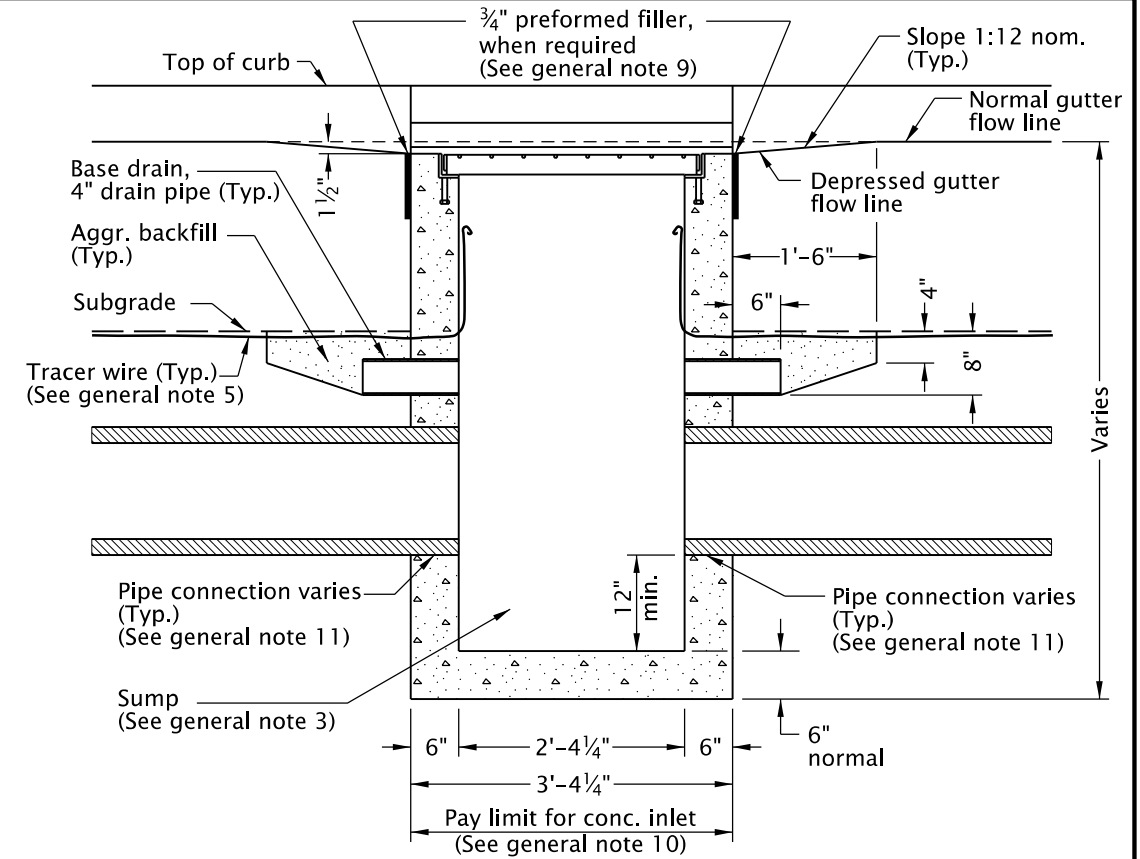
rd364.dgn 25-JUL-2017



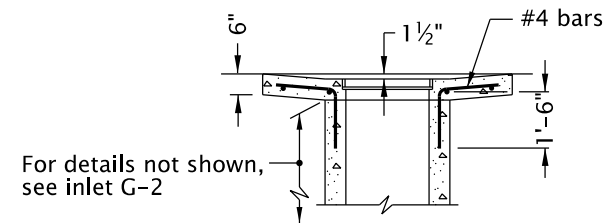
**DETAIL A
WITHOUT SUMP**



SECTION B - B

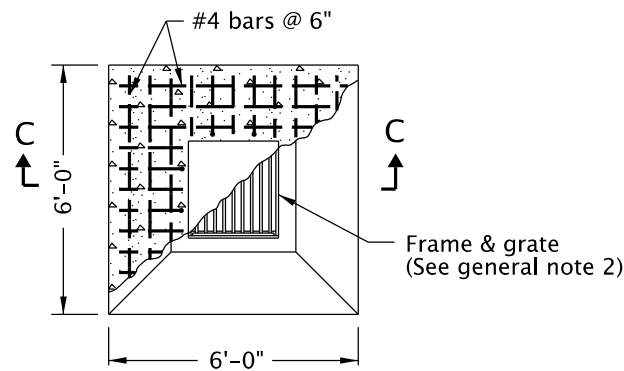


SECTION A - A



SECTION C - C

NOTE:
All reinforcement to be placed 2" clear of nearest face of concrete unless shown or noted otherwise

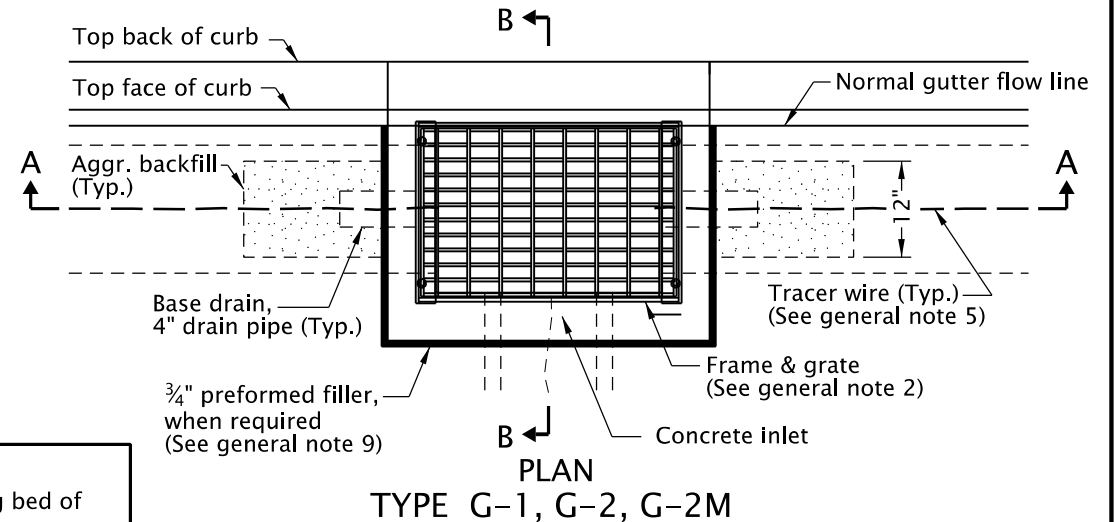


**PLAN
TYPE G-2MA**

TABLE A		
INLET TYPE	W	W ₁
G-1	2'-8 ⁷ / ₈ "	1'-8 ⁷ / ₈ "
G-2, G-2M, G-2MA	3'-3 ³ / ₈ "	2'-3 ³ / ₈ "

GENERAL NOTES FOR ALL DETAILS:

- Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or 1/4"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
- Graphics show G-1 inlet with Type 2 grate. See Table A for inlet dimensions. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use. For frame and grate details, see Std. Dwg. RD365.
- Provide sump only where shown on plans, and allowed by jurisdiction. See Detail A for inlet without sump.
- For curb details, see Std. Dwgs. RD700 & RD701.
- See Std. Dwg. RD336 for tracer wire details, or approved alternate.
- Max. pipe diameter varies with pipe material.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
- All concrete shall be commercial grade concrete.
- 3/4" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
- See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required.
- See Std. Dwg. RD339 for pipe to structure connections.



**PLAN
TYPE G-1, G-2, G-2M**

CALC. BOOK NO. N/A

BASELINE REPORT DATE

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS
CONCRETE INLETS
TYPE G-1, G-2, G-2M, & G-2MA

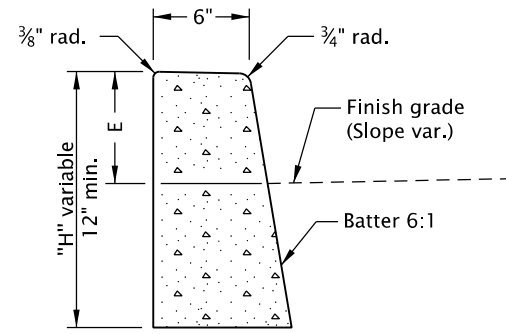
2018

DATE	REVISION DESCRIPTION

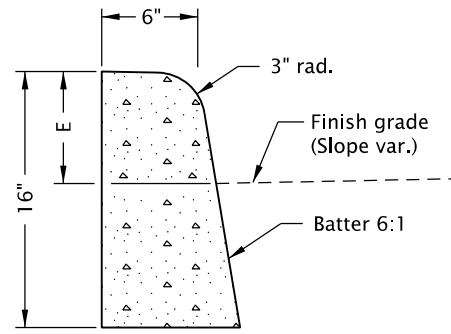
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

RD364

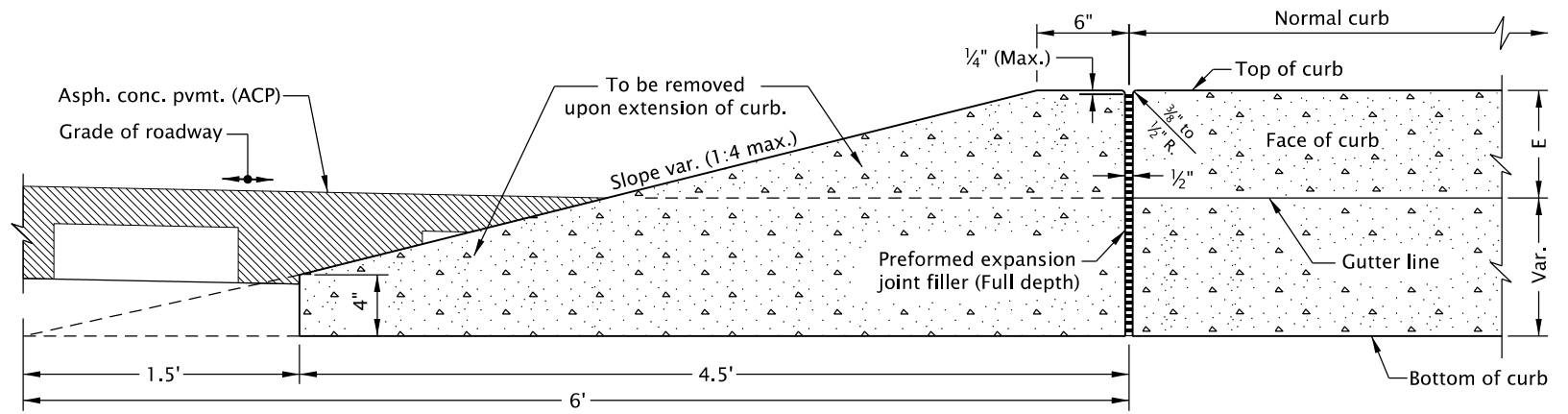
rd700.dgn 13-JAN-2020



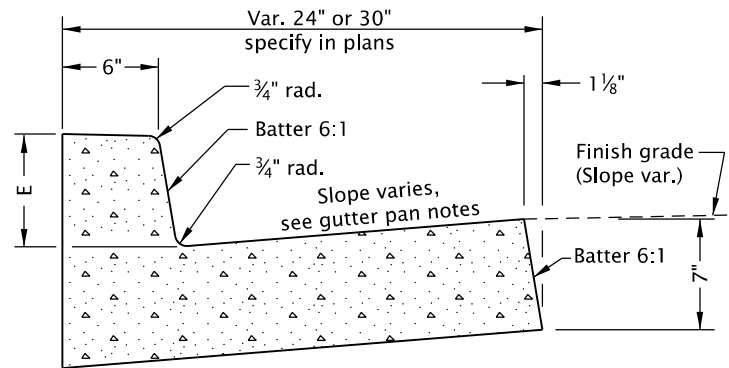
O.D.O.T. & City of Portland Standard "H"=16" STANDARD CURB
(See general note 11)



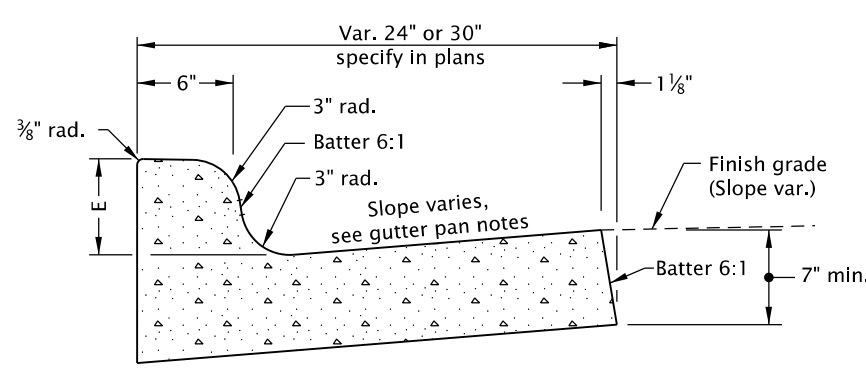
MOUNTABLE CURB
(See general note 11)



CURB ENDING DETAIL

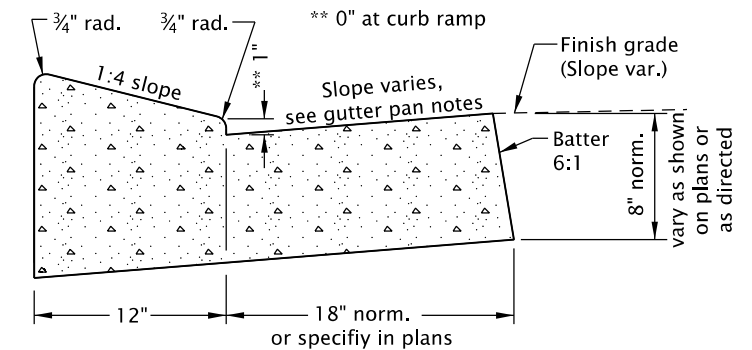


CURB AND GUTTER

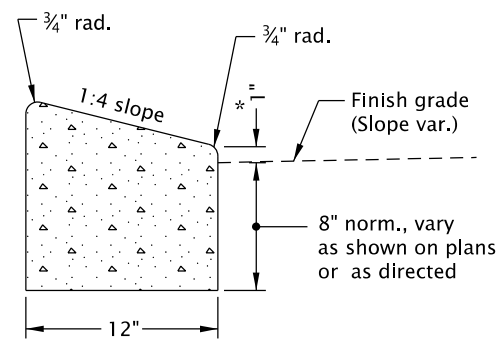


MOUNTABLE CURB AND GUTTER

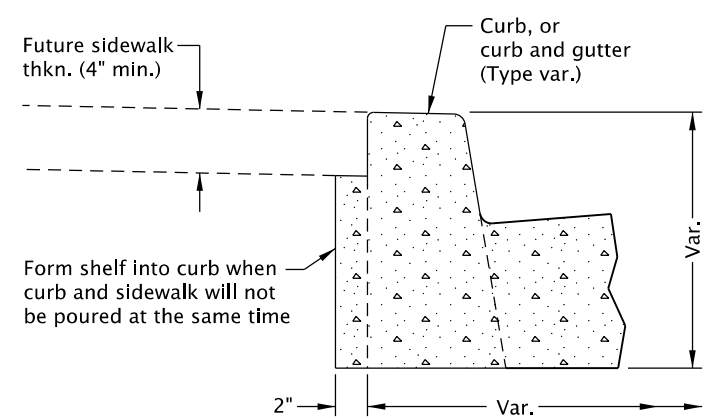
GUTTER PAN NOTES:
Slope 5.0% normal.
Slope 4.0% max. at curb ramps.
Vary slope as reqd. for drainage. Vary where shown on plans, and allowed by jurisdiction.



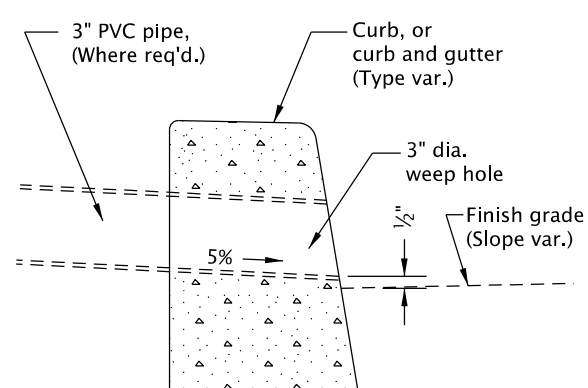
LOW PROFILE MOUNTABLE CURB AND GUTTER
(Where shown on plans)



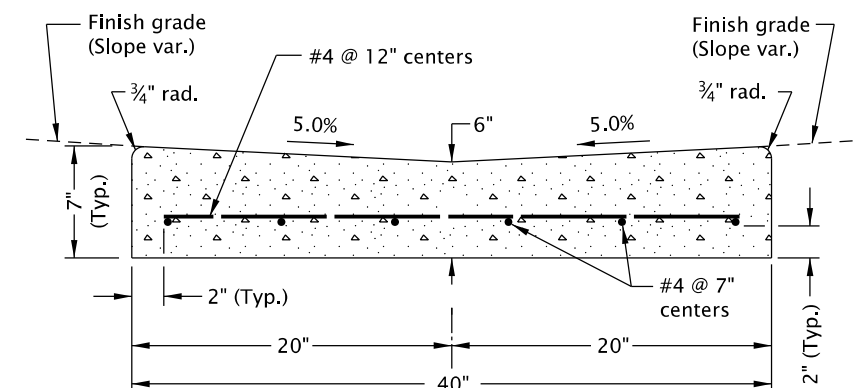
LOW PROFILE MOUNTABLE CURB
(See general note 11)



MODIFICATION FOR KEYWAY
(Where shown on plans)



WEEP HOLE DETAIL
(Where shown on plans, and allowed by jurisdiction)



VALLEY GUTTER

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb exposure "E" = 6" to 9", as measured vertically from flowline to highest point on curb. Vary as shown on plans or as directed. O.D.O.T standard "E"=7".
2. Const. curb expansion joints at 200' maximum spacing, and at points of tangency, and at ends of each driveways.
3. Const. curb contraction joints at 15' maximum spacing, and at ends of each inlet and curb ramp.
4. Transitions shall be used to connect curbs of different exposures "E". ("E" Is the total vertical dimension of those curb surfaces having a slope of 1:1 or steeper). Minimum desirable transition length shall be 20' for each 1" difference in "E".

5. Tops of all curbs shall slope toward the roadway at 1.5% max. (Max. 2.0% finished surface slope), unless otherwise shown, or as directed.
6. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
7. Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.
8. For sidewalk details, and monolithic curb & sidewalk, see Std. Dwg. RD720 & RD721.
9. For drainage curbs, see Std. Dwg. RD701.
10. For curb ramp details, see Std. Dwg. RD755.
11. On or along state highways, curb and gutter is required at curb ramp.

CALC. BOOK NO. N/A BASELINE REPORT DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

CURBS

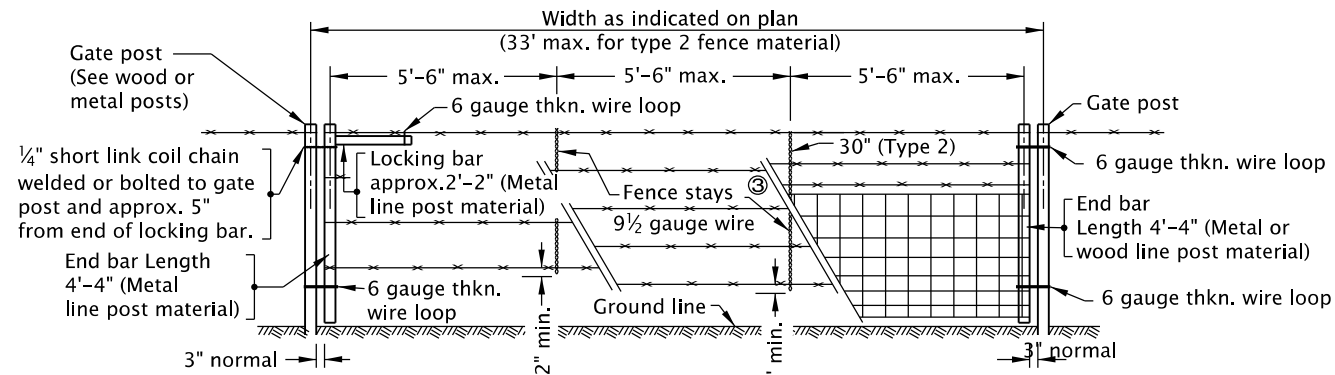
2018

DATE	REVISION DESCRIPTION
01-2018	REVISED & ADDED NOTES
05-2018	REVISED NOTE
07-2018	ADDED DETAIL & REVISED NOTES
06-2019	REVISED NOTES
01-2020	REVISED DETAIL & NOTES

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

RD700

rd810.dgn 13-JAN-2020



- NOTES:
 ① Match adjoining fence type.
 ② For details not shown see fence type.
 ③ For wooden stays, see Type 1 fence details.

GATEWAY

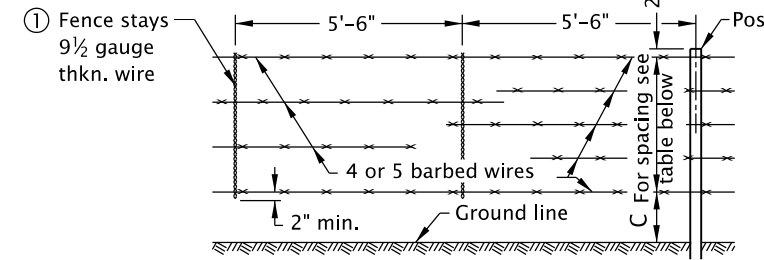
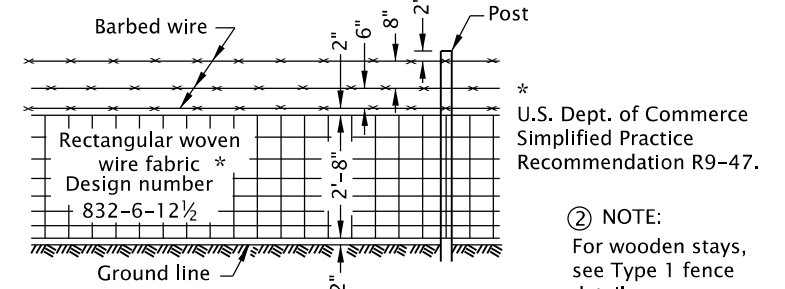


TABLE OF DIMENSIONS

FENCE	C	SPACING	NO. OF WIRES
Type 1	14"	12"	4
Type 1-5W	10"	10"	5

- ① NOTE:
 Wooden Stays to be used in areas of heavy snowfall or snow drifts over 36". Stays to be 2"x2"x52" min. length, sound, untreated Douglas Fir, Western Hemlock or Western Pine, spaced as shown for wire stays and to rest firmly on the ground.
 Horizontal wires to be stapled are: single wires and a minimum of 4 wires for woven wire fabric.



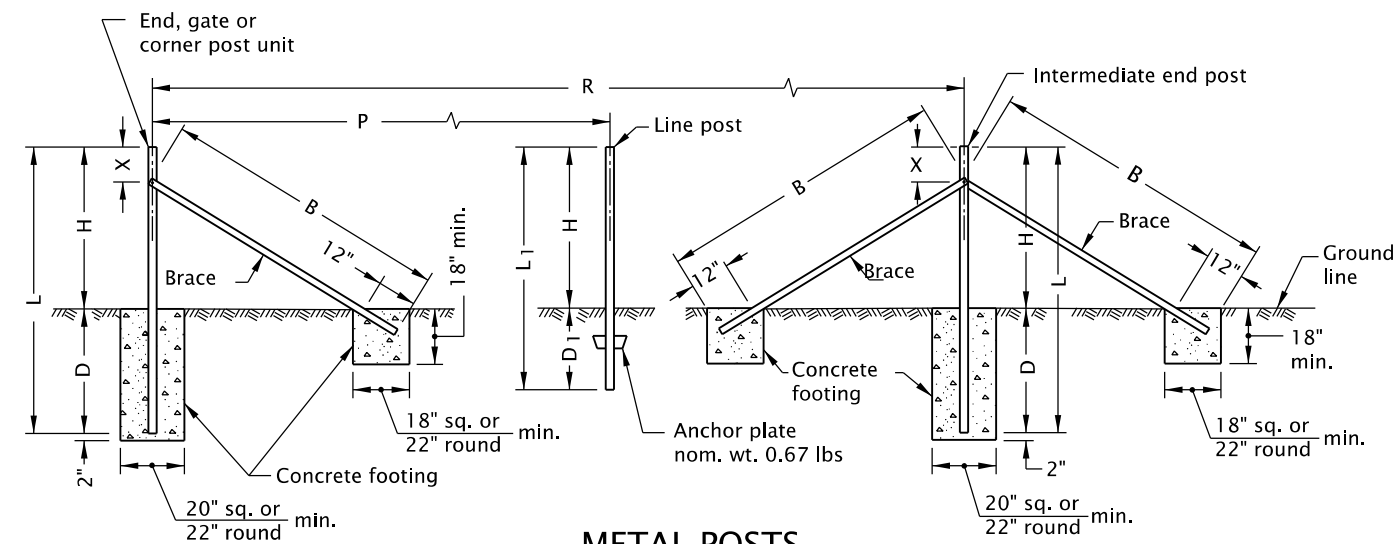
② TYPE 2

TABLE 1 (For wood posts)

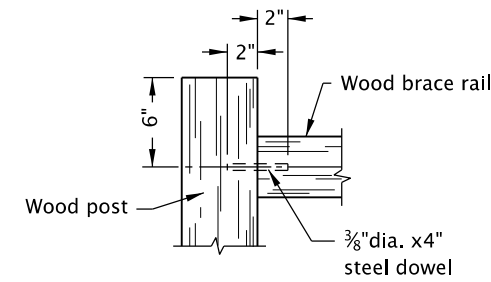
FENCE	R (ft)	UNITS REQUIRED
Types { 1, 1-5W & 2	20 or Less	* None
	20-330	A
	Over 330	A & B

* Unit A required at gate post.
 Either Unit A or Units A & B are required in existing fence line at intersection with new fence line.

TYPES 1, & 1-5W



METAL POSTS



BRACE RAIL CONNECTION

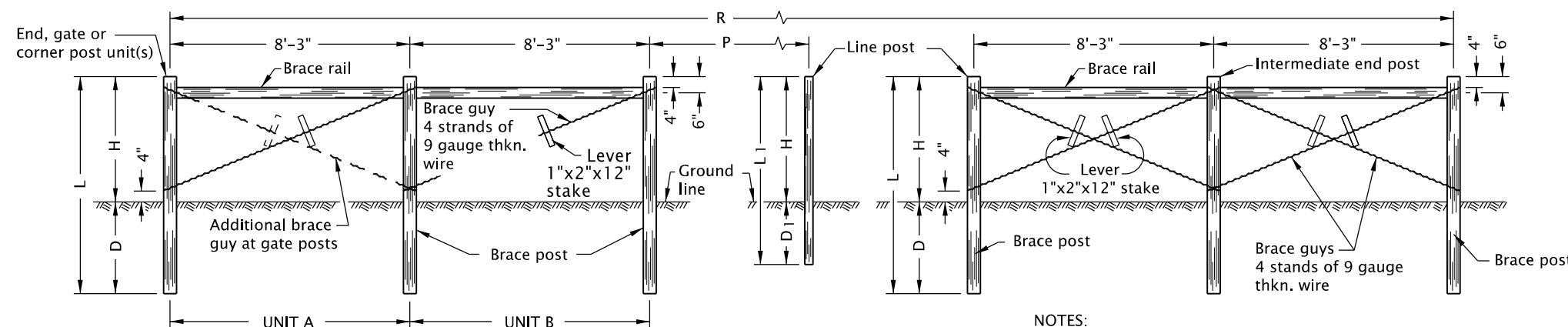
TABLE 2

FENCE	R max.	P	L min.	L1 min.	H	D min.	D1 min.	B min.	X min.-max.
All Types	660'	16'-6"	7'-6"	6'-6"	4'-4"	3'-2"	2'-2"	7'-8"	9"-22"

TABLE 3

MEMBER	WOOD		METAL			
	* ROUND		SQUARE	SHAPE	WEIGHT PER (ft) nominal	SIZE nominal
	DIAMETER OF SMALL END (in)	SIZE nominal (in)	SIZE nominal (in)			
Line Post	3" to 4"	3"	‡ 3"x3"	Tee Channel (a) or U-bar	1.33 lb	ASTM A-702
Brace or Brace Rail	3 1/2" to 5 1/2"	4"	4"x4"	Tubular	(b)	1 1/2" +/- O.D.
				(a) Angle		3.19 lb
Other Post	4" to 7"	5"	‡ 5"x5"	Tubular	b	2 3/8" O.D.
				(a) Angle		4.1 lb

* Max. taper 1":48".
 ‡ Max. allowable size 1" additional in each dimension.
 (a) In accordance with ASTM A 702.
 (b) In accordance with AASHTO M 181.



WOOD POSTS

- NOTES:
 1. For dimensions indicated by letter see Table 2.
 2. Line post spacing same as dimension P.
 3. For cross sectional dimensions of members see Table 3.

- GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:
 1. For dimensions indicated by letter see Table 2.
 2. Line post spacing same as dimension P.
 3. For shapes, weights and dimensions of members see Table 3.

4. All concrete shall be commercial grade concrete.
 5. See Std. Dwg. RD820 for fence gates.
 6. See project plans for details not shown.
 7. Add fence grounding as required.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

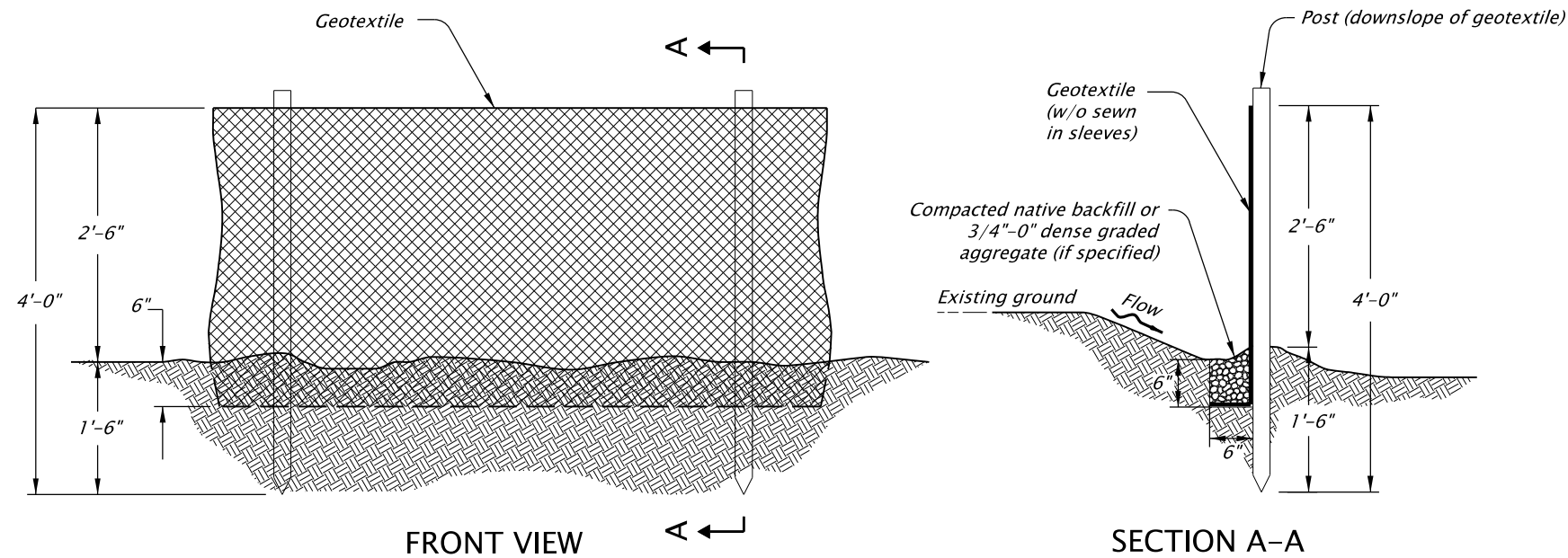
OREGON STANDARD DRAWINGS
BARBED AND WOVEN WIRE FENCES

2018

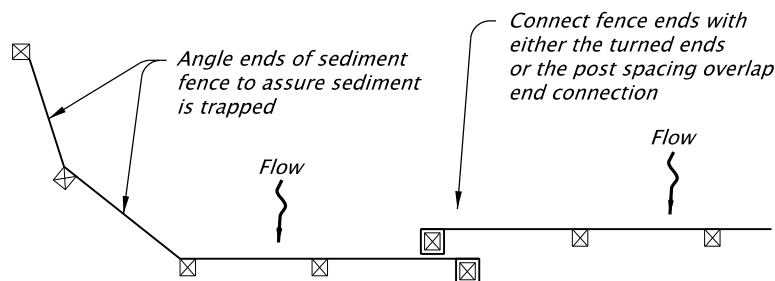
DATE	REVISION	DESCRIPTION
01-2020	REVISED NOTES	

RD810

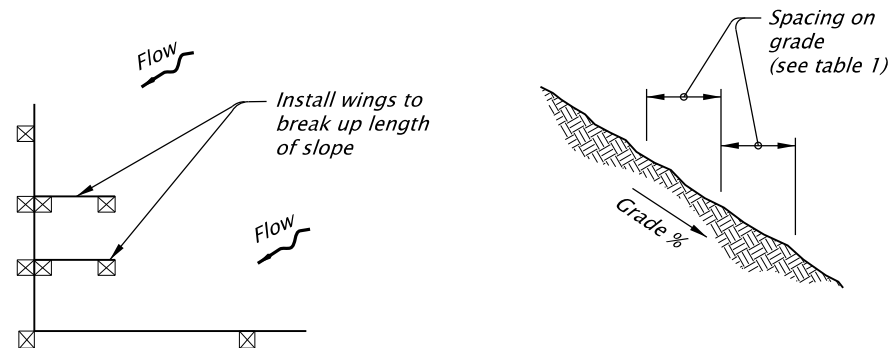
rd1040.dgn 11-08-2017



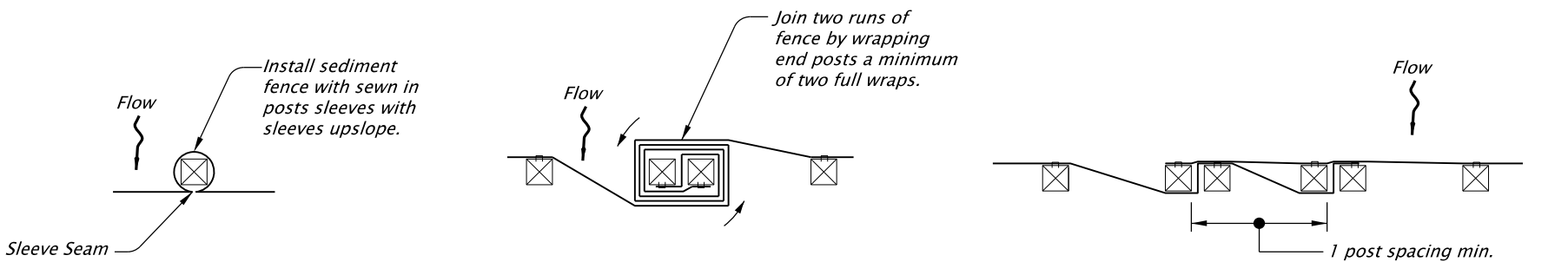
SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1



PLAN VIEW



TERMINATION AT CORNER OR PROPERTY LINE



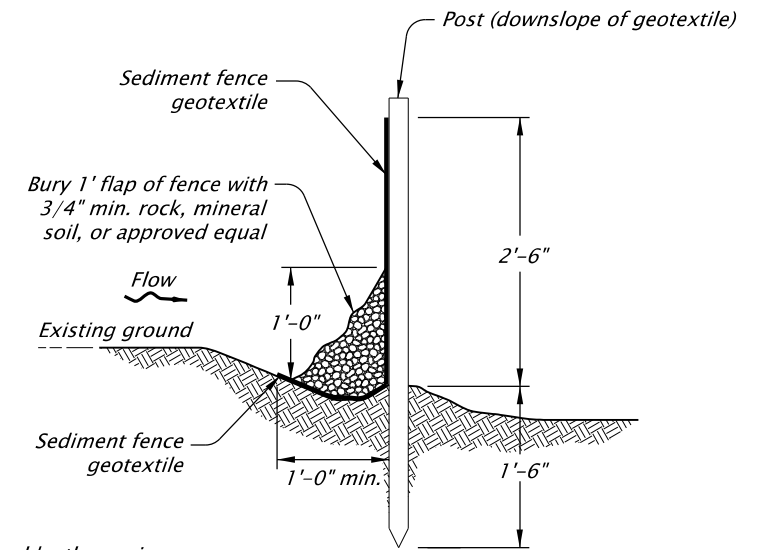
GEOTEXTILE WITH POST SLEEVES TURNED ENDS CONNECTION POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS

NOTES:

1. Use must be approved by the engineer.
2. Not approved for use with sediment fencing with sewn-in post sleeves.

ALTERNATE SEDIMENT FENCE W/O TRENCHING - TYPE 2



NOTES:

1. Use 2" X 2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with table 1.

**TABLE 1
FENCE SPACING
FOR GENERAL APPLICATION**

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'

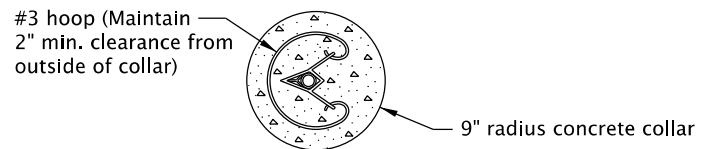
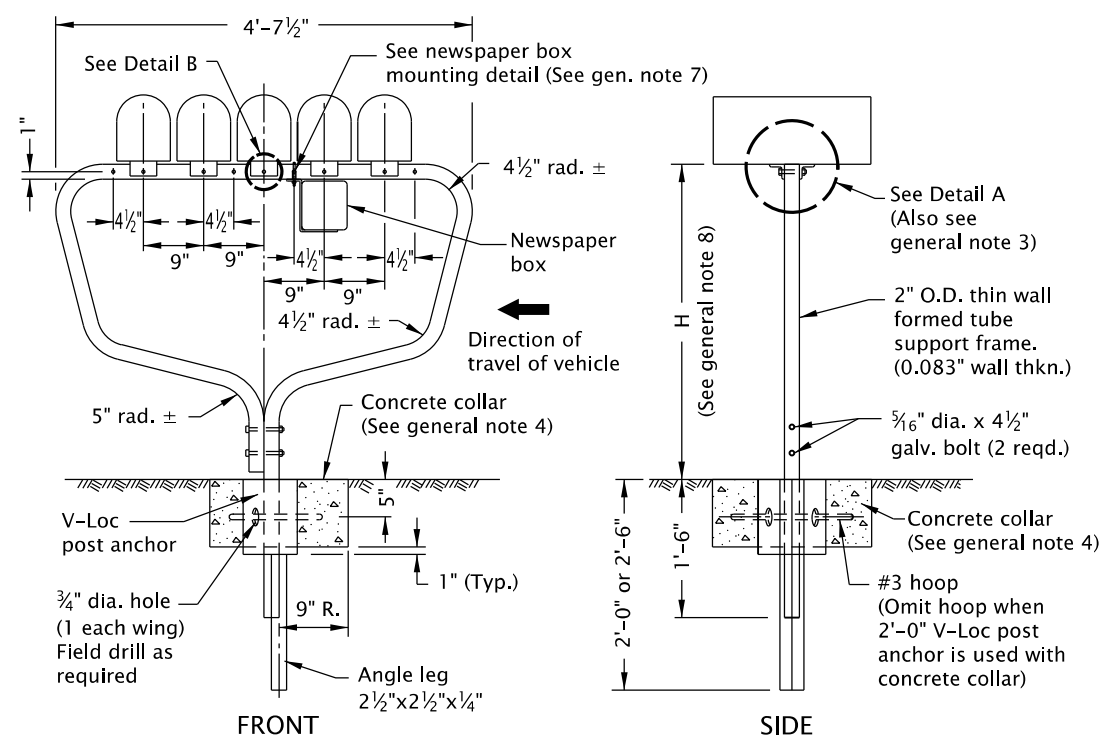
TABLE 2

POST SPACING	
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more

CALC. BOOK NO. <u>6403, 6404, 6405</u>	BASILINE REPORT DATE <u>November 2017</u>
<p>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	OREGON STANDARD DRAWINGS
	SEDIMENT FENCE
	2018
DATE	REVISION DESCRIPTION

RD1040

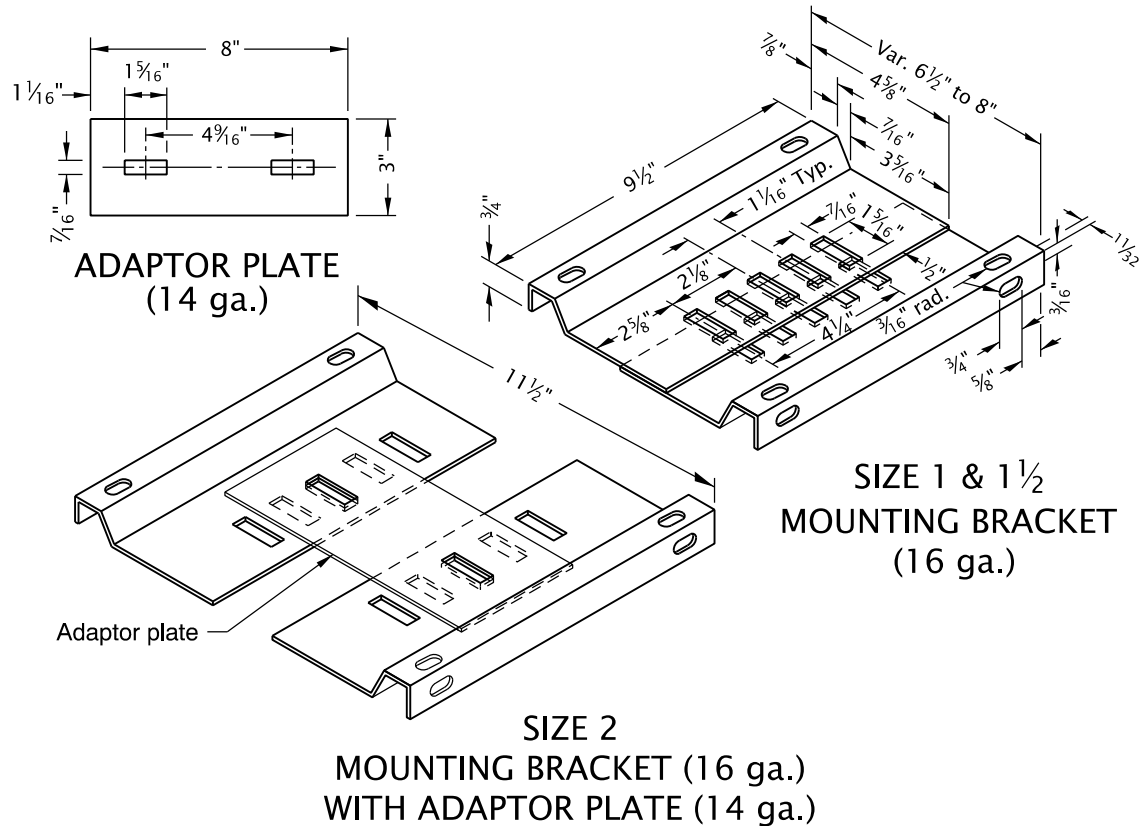
rd100.dgn 25-JUL-2017



CONCRETE COLLAR
(See general note 4)

MULTIPLE SUPPORT

(Supports 5 standard (Sizes 1 & 1 1/2) mailboxes or 4 large (Size 2) mailboxes)



**SIZE 1 & 1 1/2
MOUNTING BRACKET
(16 ga.)**

**SIZE 2
MOUNTING BRACKET (16 ga.)
WITH ADAPTOR PLATE (14 ga.)**

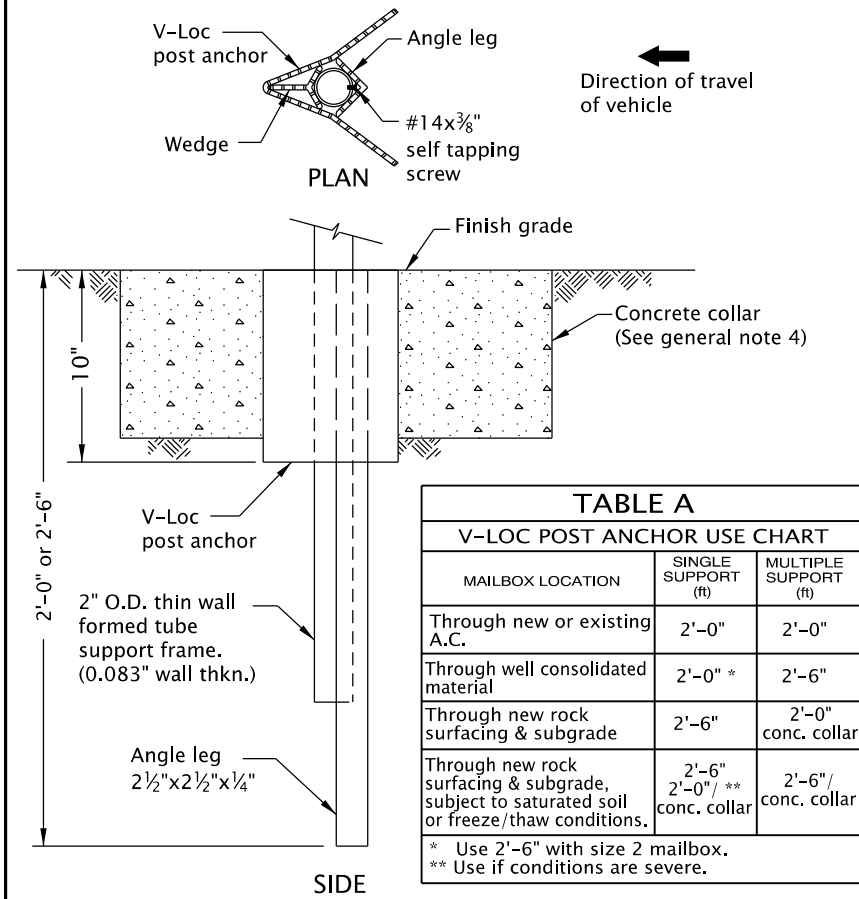
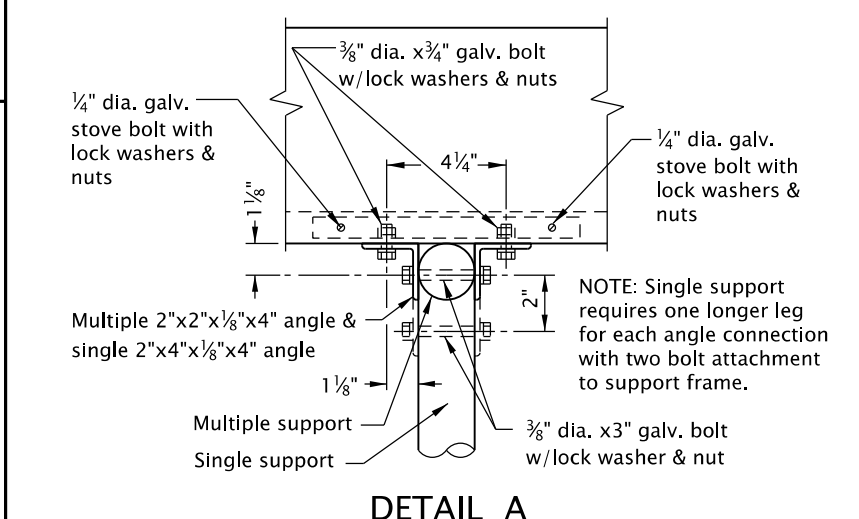


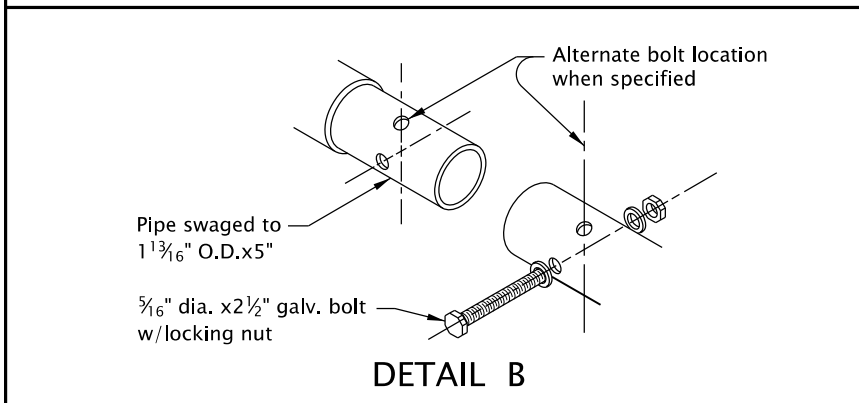
TABLE A V-LOC POST ANCHOR USE CHART		
MAILBOX LOCATION	SINGLE SUPPORT (ft)	MULTIPLE SUPPORT (ft)
Through new or existing A.C.	2'-0"	2'-0"
Through well consolidated material	2'-0" *	2'-6"
Through new rock surfacing & subgrade	2'-6"	2'-0" conc. collar
Through new rock surfacing & subgrade, subject to saturated soil or freeze/thaw conditions.	2'-6" 2'-0"/** conc. collar	2'-6"/ conc. collar

* Use 2'-6" with size 2 mailbox.
** Use if conditions are severe.

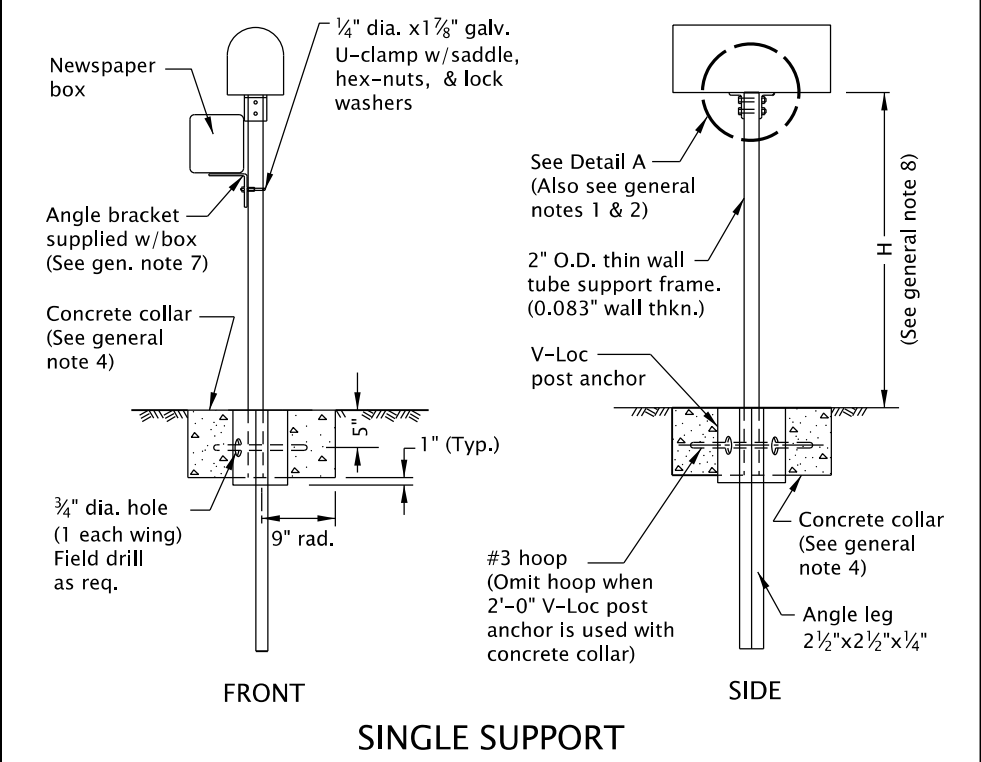
POST MOUNTING SOCKET



DETAIL A



DETAIL B



SINGLE SUPPORT

GENERAL NOTES FOR ALL DETAILS:

1. Angle connections to be parallel to traffic flow for Size 2 mailbox mounted on single post.
2. All holes in the tube support frame are to be predrilled by the manufacturer.
3. Size 2 mailbox mounted on a multiple support requires 2 each 3/8 inch dia. x 5/8 inch galv. bolts with lock washers and nuts to attach the adaptor plate to the mounting bracket. The unit will then require 4 angle connections to attach to the formed tube support frame. See Detail A.
4. Provide concrete collar when any of the following conditions exist:
 - a) when required in Table A
 - b) when required by project plans
 - c) as directed by the Engineer
 Concrete collar, when required, to be poured in place after V-Loc post anchor has been installed, level and plumb. Do not excavate below bottom of V-Loc post anchor. Care shall be taken that no concrete is placed within anchor.
5. Other proprietary products available as listed in ODOT's QPL.
6. For mailbox installation locations, see Std. Dwg. RD101 and project plans.
7. For Newspaper Box Mounting Detail, see Std. Dwg. RD101.
8. Mounting height (H) shall be 42 inch nominal, measured from vehicle driving surface.
9. See project plans for detail not shown.

CALC. BOOK NO. N/A BASELINE REPORT DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

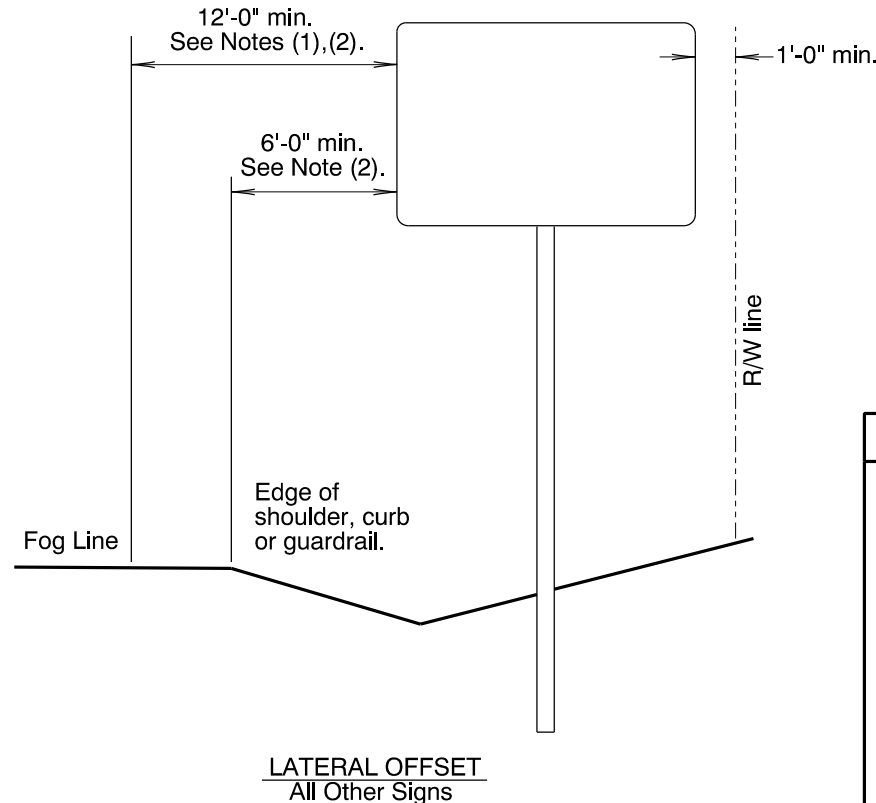
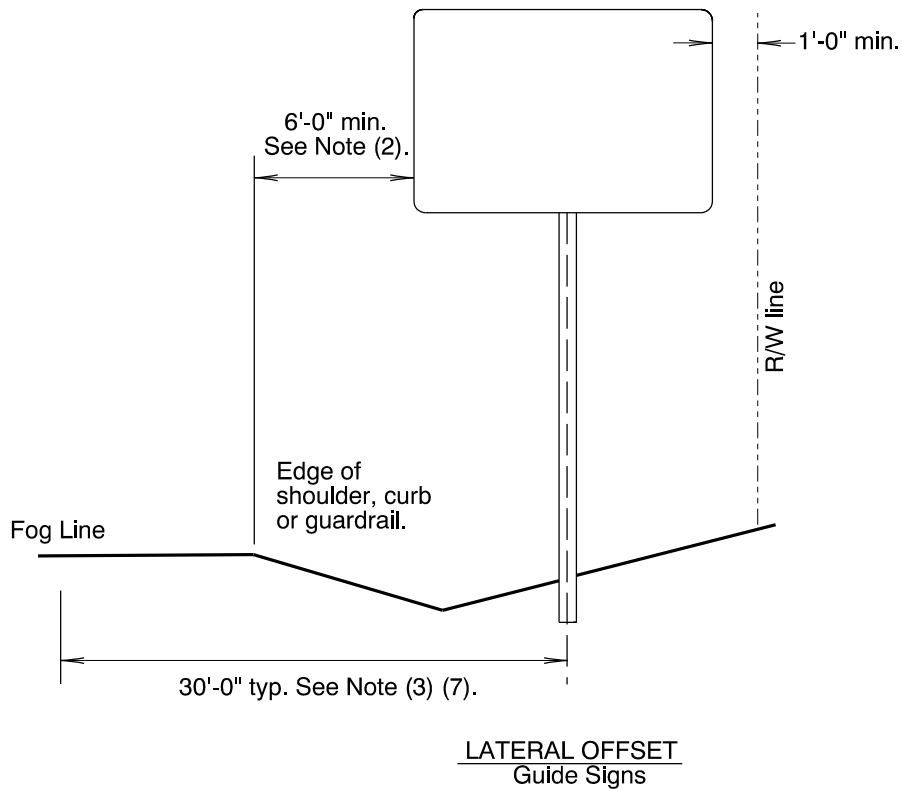
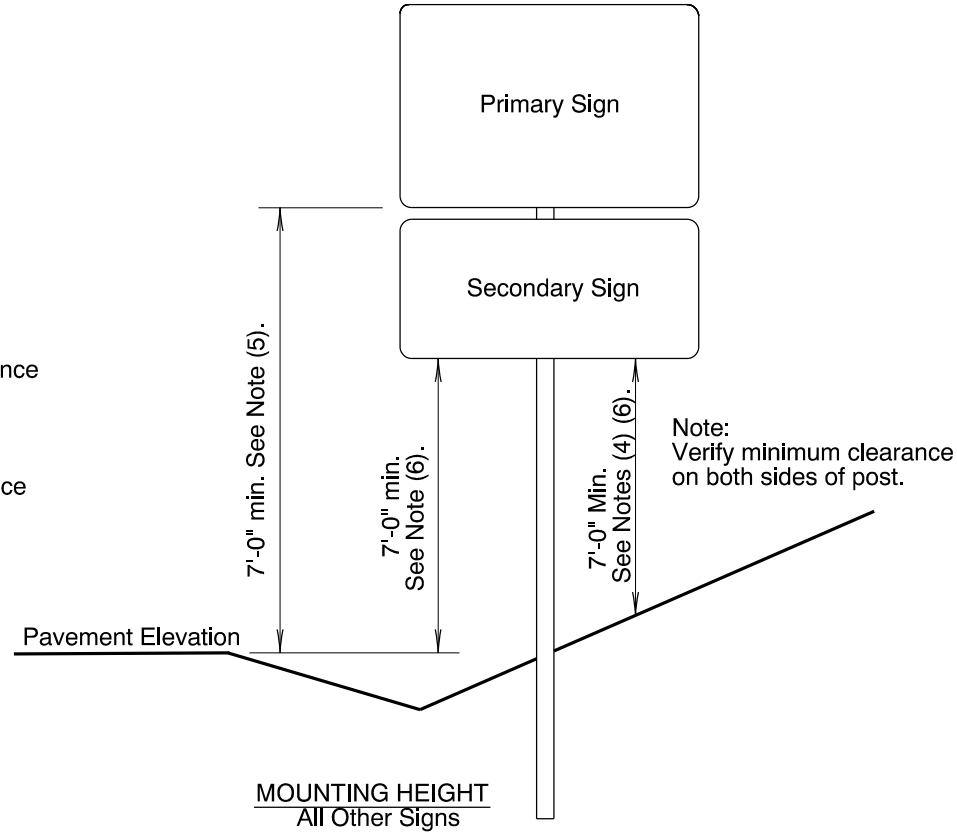
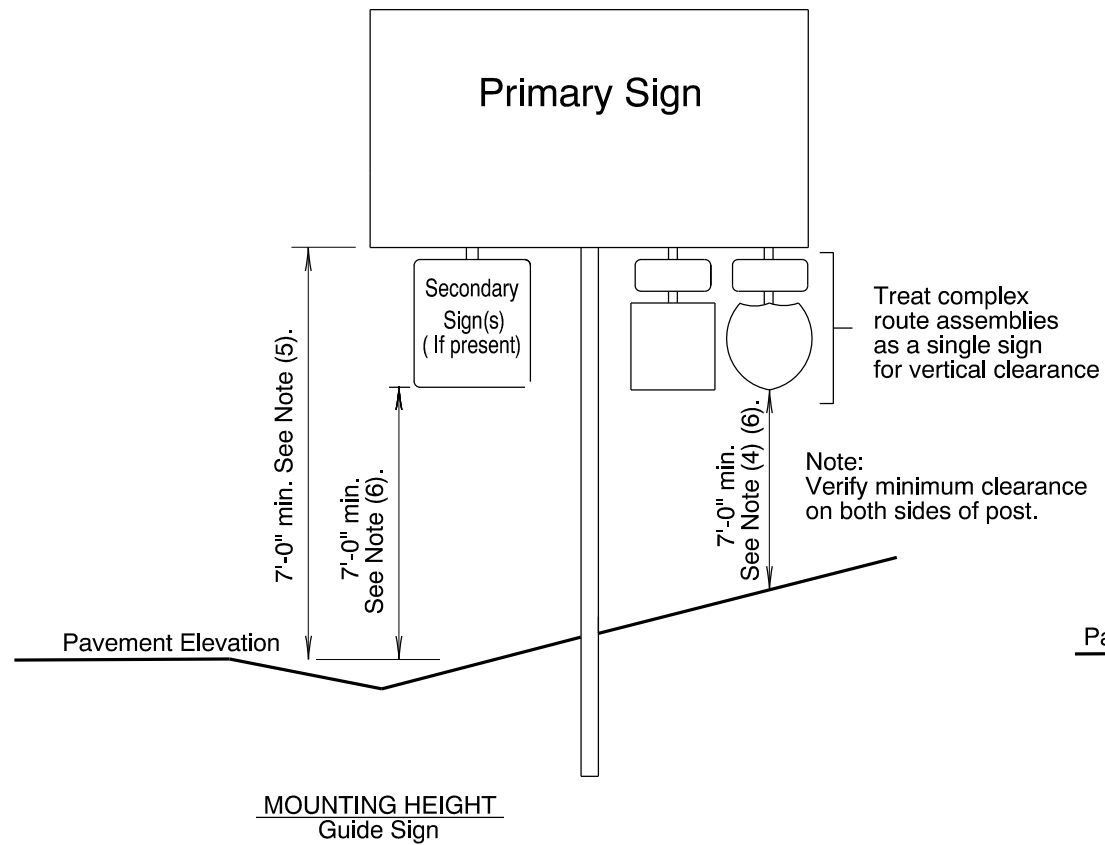
OREGON STANDARD DRAWINGS

MAILBOX SUPPORT

2018

DATE	REVISION DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.



General Installation Notes:

- a. Signing details shown on this sheet are intended to convey "typical" conditions only. Individual locations may require installation different from those shown. For guidance regarding unique installations or exceptions call the Project Sign Designer or Region Traffic Section.
- b. Locate breakaway supports away from ditches to avoid problems with erosion, corrosion, debris, maintenance and breakaway performance. See Dwg. No. TM635 for more information.
- c. For wood post support details see Dwg. No. TM670.
- d. For perforated steelsquare tube support details see Dwg. No. TM681.
- e. For triangular base breakaway support details see Dwg. No. TM602.
- f. For multi-post breakaway support details see Dwg. No. TM600.
- g. Mounting heights should not be more than 3 inches more than the minimum heights shown, where practical.
- h. 2" vertical spacing between all signs.

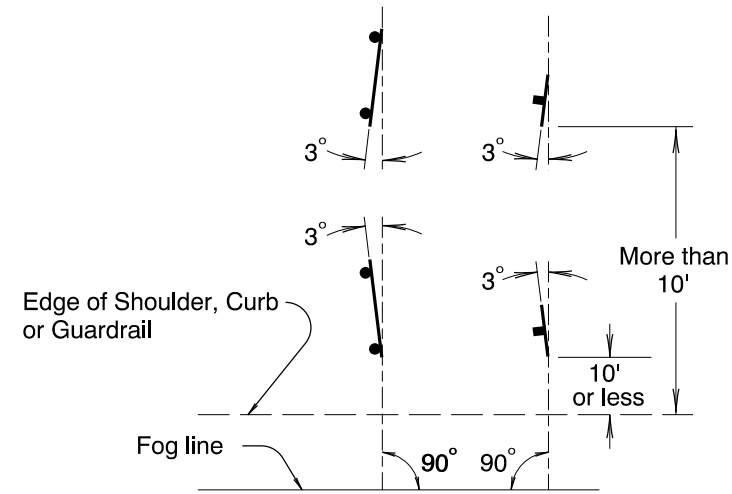
Notes:

- 1). 6' minimum if behind barrier.
- 2). 2' minimum if restricted R/W.
- 3). 20' for ramp terminals.
- 4). 8' minimum if bicycle path underneath.
- 5). 8' minimum if secondary signs attached.
- 6). 5' minimum if outside clearzone, in rural areas and no pedestrians underneath.
- 7). For multi-post installations measure distance from post closest to roadway.

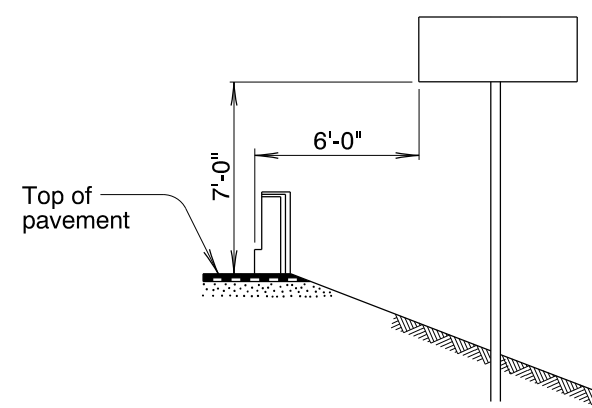
CALC. BOOK NO. <u>N/A</u>	BASELINE REPORT DATE <u>01/08/2018</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
SIGN INSTALLATION DETAILS	
2018	
DATE	REVISION DESCRIPTION
1/08/18	Adjusted slope line on Mounting Height detail for clarity

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

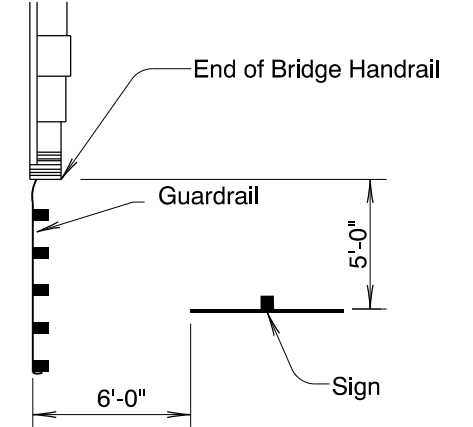
TM201.dgn 1-3-2017



SIGN PLACEMENT

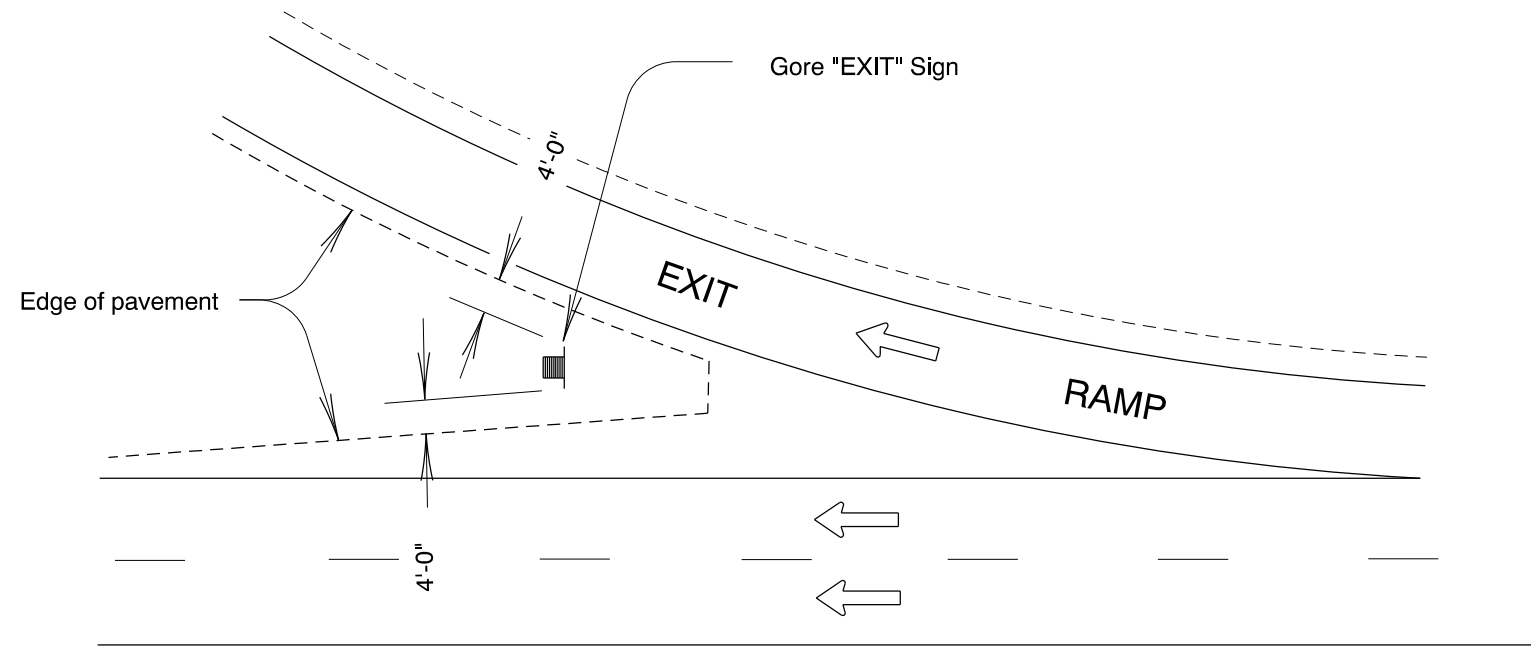


ELEVATION



PLAN

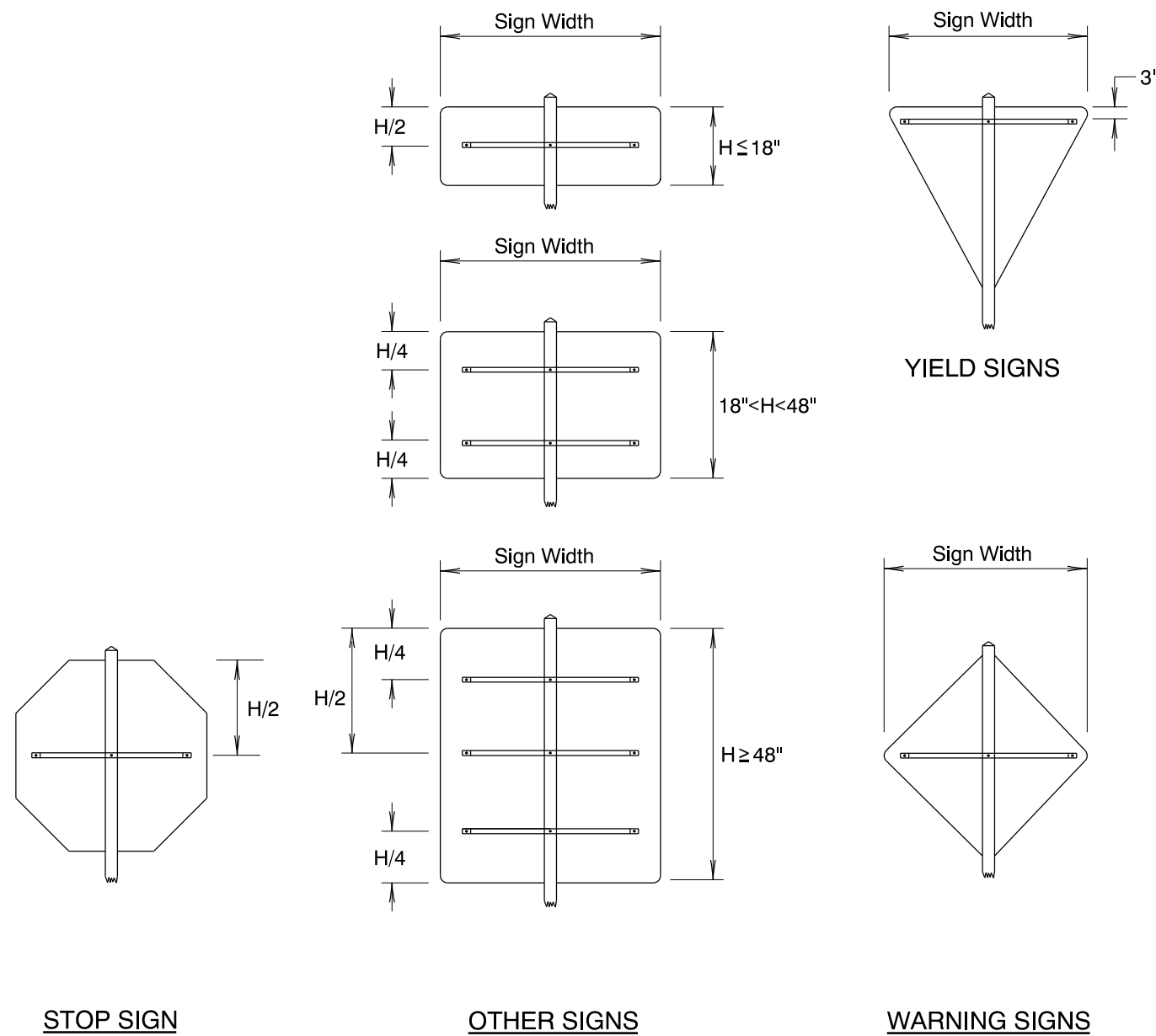
SIGN LOCATION FOR FREEWAY OVERCROSSING
(MINIMUM VALUES)



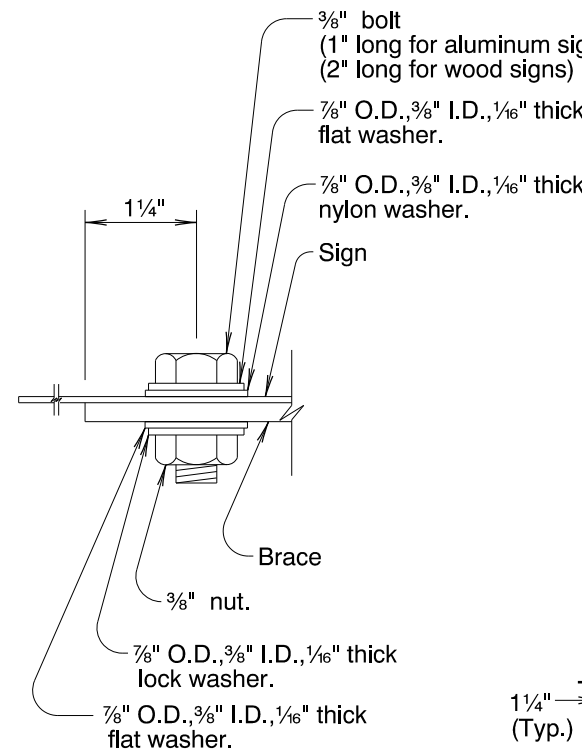
TYPICAL "EXIT" SIGN INSTALLATION

CALC. BOOK NO. <u>N/A</u>	BASELINE REPORT DATE <u>12-10-09</u>											
<p><i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i></p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications											
	OREGON STANDARD DRAWINGS											
	MISCELLANEOUS SIGN PLACEMENT DETAILS											
	2018											
	<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISION</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	REVISION	DESCRIPTION								
DATE	REVISION	DESCRIPTION										

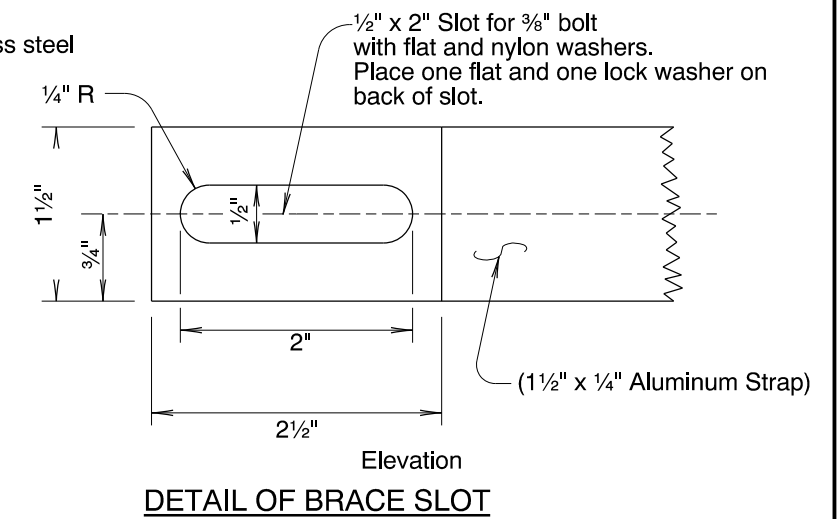
TM201



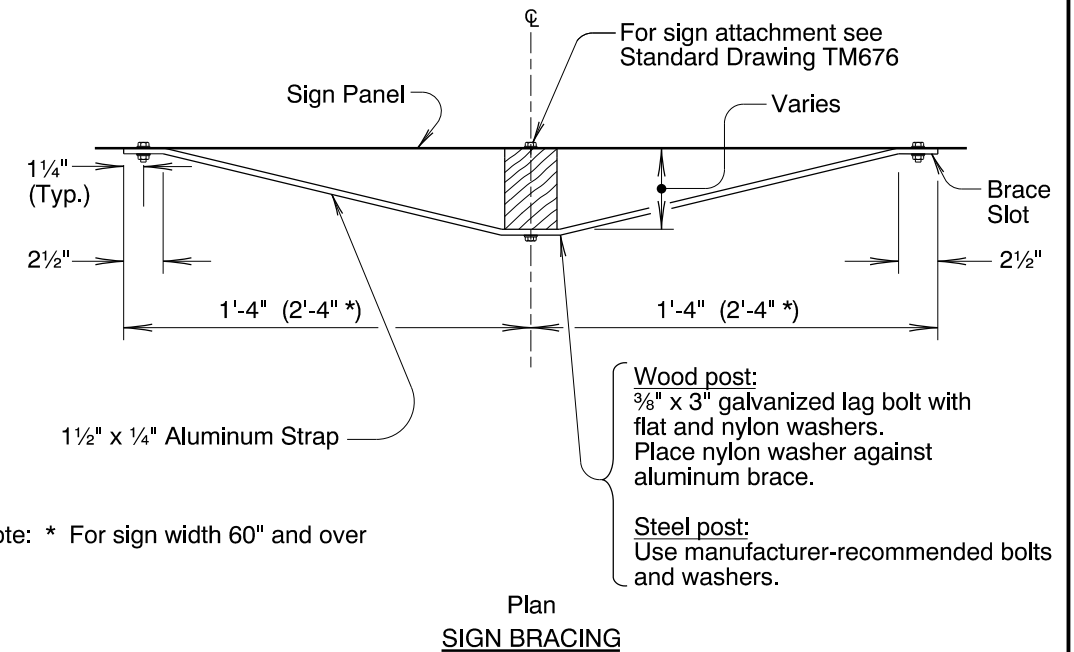
YIELD SIGNS



BOLT, NUT AND WASHER
INSTALLATION DETAIL



DETAIL OF BRACE SLOT



Note: * For sign width 60" and over

- NOTES:
1. Sign braces are only installed when specified in the contract plans, in the special provisions, or by the engineer.
 2. When attaching bolts to brace slot, hold bolt head in place and turn nut on opposite side.
 3. Use nylon washer against both sides of aluminum brace when using galvanized hardware.

TYPICAL LOCATION OF BRACING

(Adjust location of bracing so that bolts will miss legend)

BRACE LENGTHS **		
POST SIZE	SIGN WIDTH	
	< 60"	≥ 60"
2" X 2" (Steel)	32 1/2"	56 1/2"
2 1/2" X 2 1/2" (Steel)	32 1/2"	56 1/2"
4" X 4" (Wood)	33 1/2"	57"
4" X 6" (Wood)	35"	57 1/2"
6" X 6" (Wood)	35 1/2"	58"
6" X 8" (Wood)	37 1/2"	59"

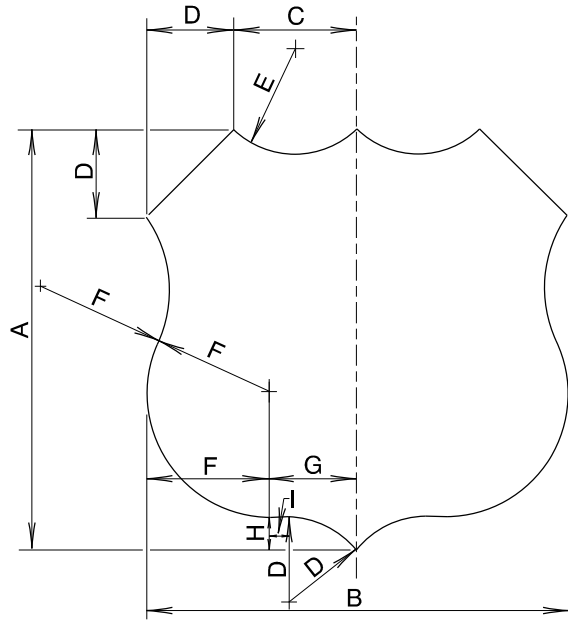
** Verify lengths before bending and attaching to sign and post.

CALC. BOOK NO. N/A	BASELINE REPORT DATE 12-10-09
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
SIGN BRACING DETAIL	
2018	
DATE	REVISION DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

TM211.dgn 1-3-2017

U.S. ROUTE MARKERS



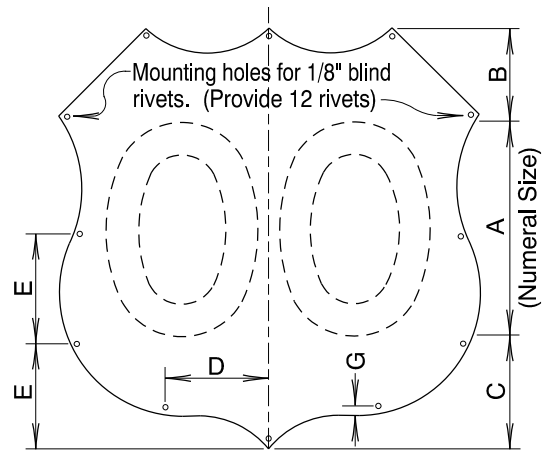
BASIC U.S. ROUTE DESIGN

SIZE	A	B	C	D	E	F	G	H	I
18	18	18	5 1/4	3 3/4	3 3/4	5 1/4	3 3/4	1 1/2	3/4
18	18	22 1/2	7 1/2	3 3/4	6 3/4	5 1/4	6	1 1/2	2 3/4

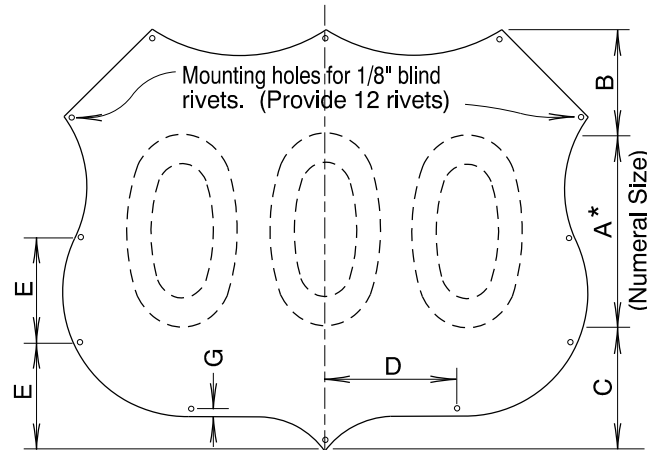
NOTE: Use sheet aluminum overlay with rivet holes for mounting on extruded aluminum panel signs.

2- OR 3-DIGIT U.S. ROUTE MARKERS

SHIELD SIZE	NO. OF DIGITS	A*	B	C	D	E	G
18	2	9" D	4 1/8	4 7/8	4 1/2	4 1/2	3/8
18	3**	9" D	4 1/8	4 7/8	5 5/8	4 1/2	3/8



For 2 Digit U.S. Routes



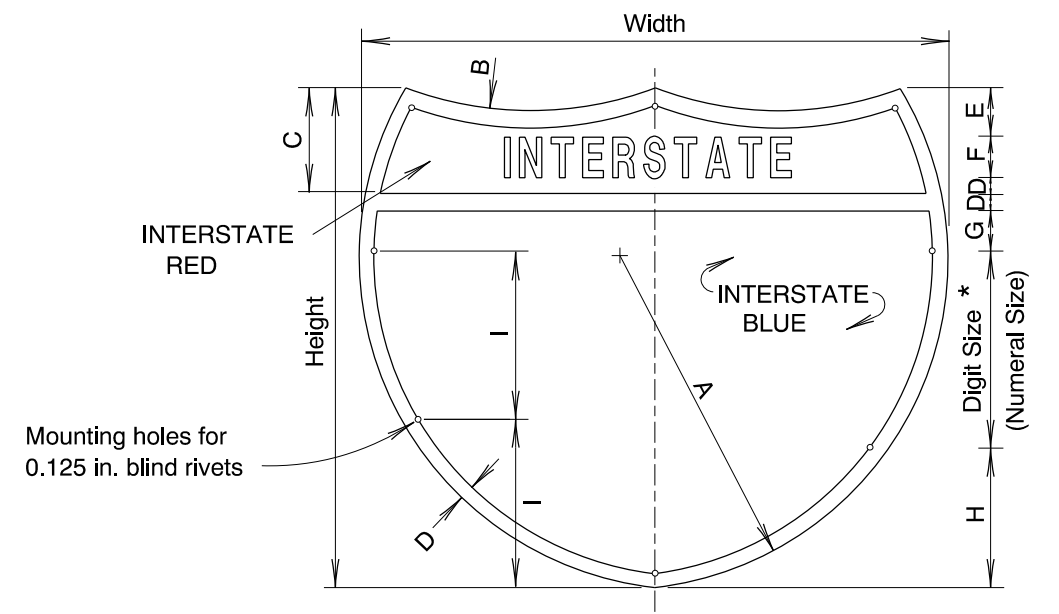
For 3 Digit U.S. Routes

Notes: The Federal Highway Administration's standard rounded capital letter alphabets and letter spacing shall be used. The series for the numeral and the size and series for the letter suffix of the route number shall be as shown hereon. The letter shall be placed beside the numerals.

US Route Markers shall have non-reflectORIZED black letters, symbols and borders on a silver-white ASTM Type III or Type IV retroreflective sheeting background. Use white ASTM Type IX retroreflective sheeting background for overhead installations.

The Interstate Route Marker shall have silver-white ASTM Type III or Type IV retroreflective sheeting overlaid with Standard Interstate red and blue transparent past background with silver-white ASTM Type III or Type IV retroreflective sheeting letters and symbols. Use white Type IX sheeting background and white Type IX letters and symbols for overhead installations.

INTERSTATE ROUTE MARKERS



INTERSTATE ROUTE MARKERS

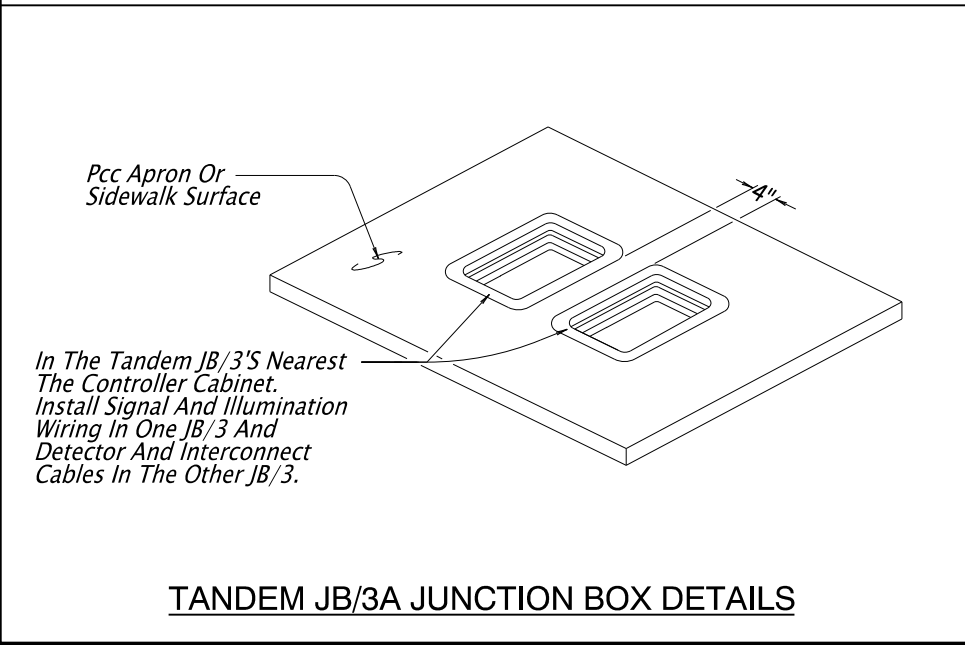
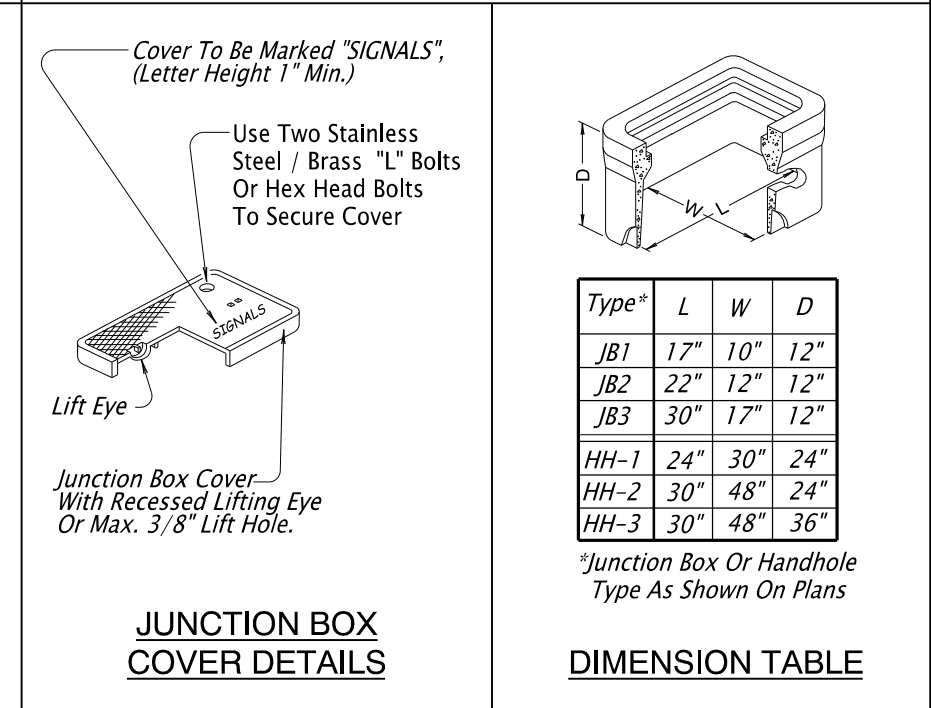
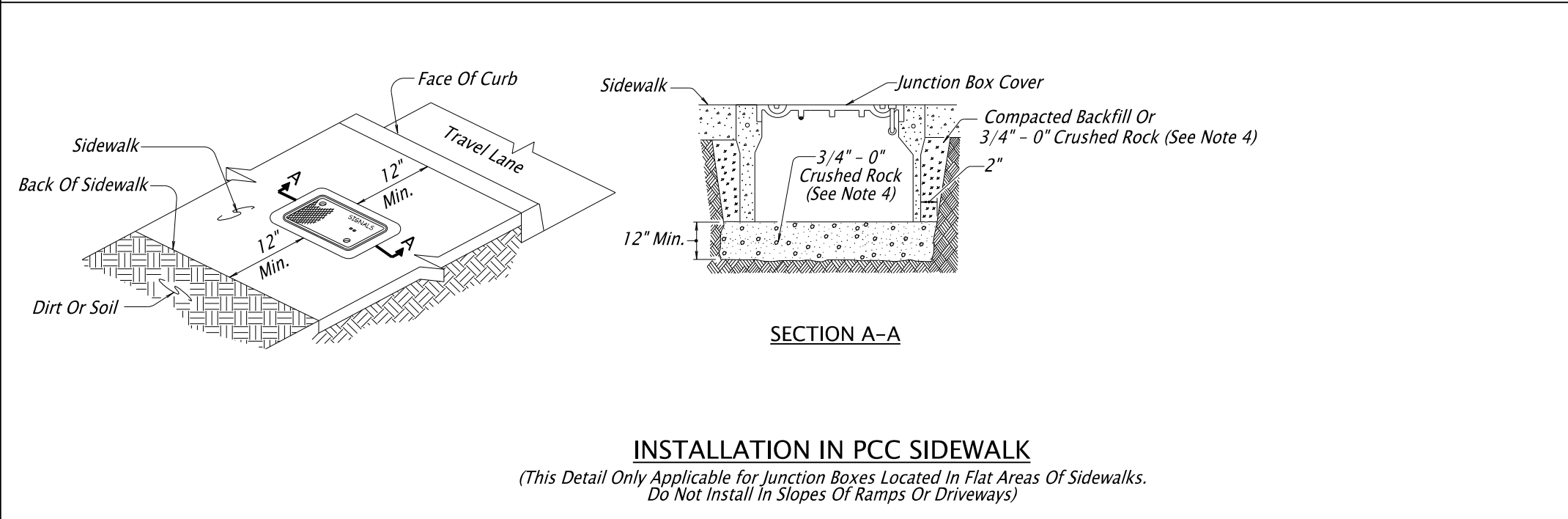
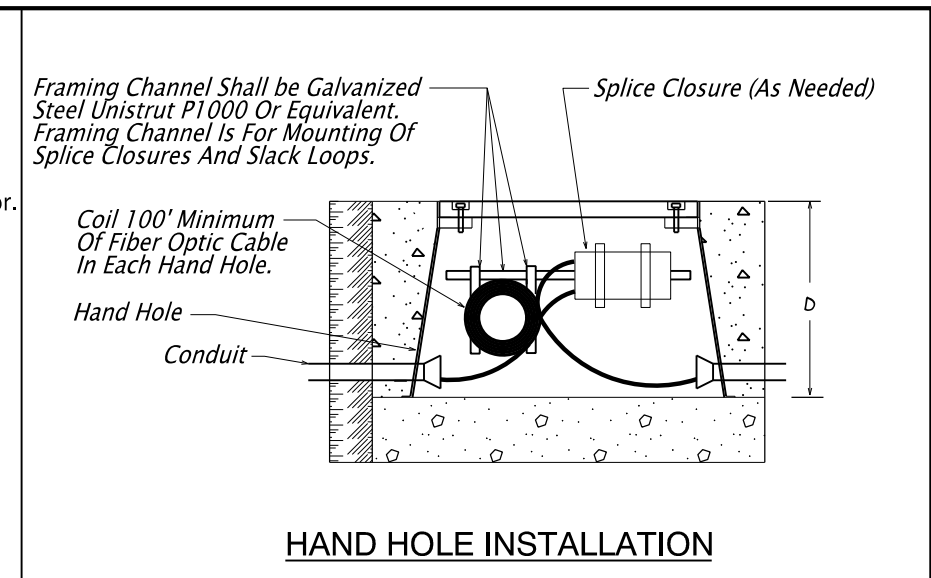
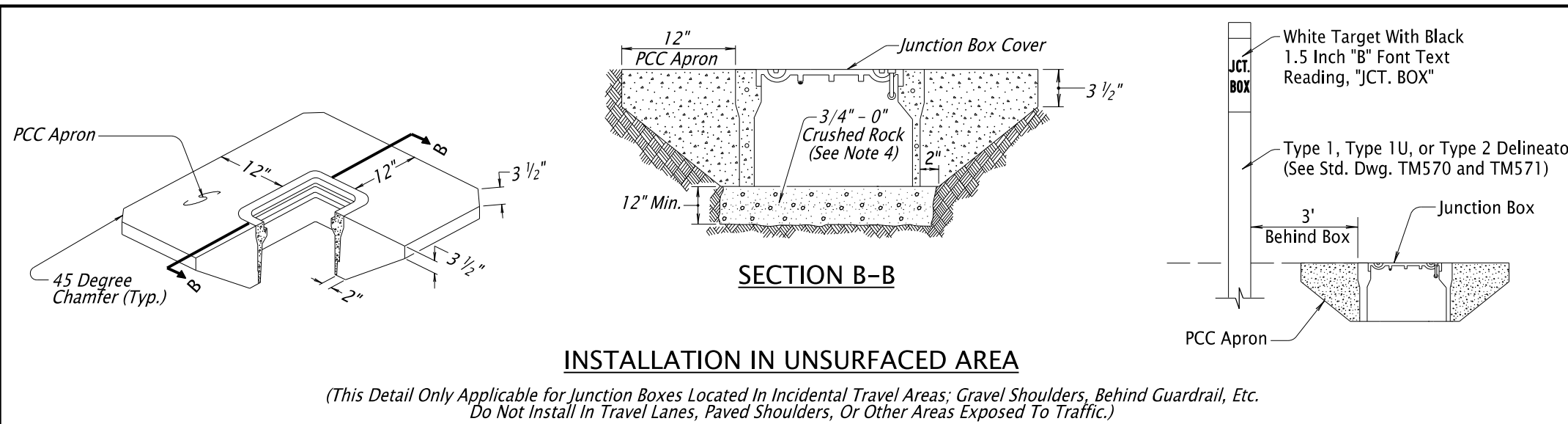
Shield Size	Digit Size *	No. of Digits	Height	Width	A	B	C	D	E	F	G	H	I
18	9" D	1, 2	18	18	11 1/4	11 1/4	3 3/4	3/8	1 1/2	1 7/8C	3/4	4 1/8	6
	9" D	3**	18	22 1/2	12 3/4	18	3 3/4	3/8	1 1/2	1 7/8C	3/4	4 1/8	6

* In a few cases numerals cannot be accommodated within the space available. For these situations, the Standard Series "D" numeral may be reduced to Series "C", or as a second choice to the next smaller height commonly available. Where the numerals are reduced in height the reduction shall be divided equally and added to the dimensions "B" & "C".

** If at least 2 of the 3 digits are "1", then use shield size corresponding to a 2 digit number.

CALC. BOOK NO. N/A	BASELINE REPORT DATE 01/06/2012											
<p><i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i></p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications											
	<p>OREGON STANDARD DRAWINGS</p> <p>SIGNING DETAILS</p> <p>US & INTERSTATE ROUTE SHIELDS</p>											
	<p>2018</p>											
	<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISION</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>10/03/17</td> <td></td> <td>Replaced references to W1, W7, F and F1 sign types</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	DATE	REVISION	DESCRIPTION	10/03/17		Replaced references to W1, W7, F and F1 sign types					
DATE	REVISION	DESCRIPTION										
10/03/17		Replaced references to W1, W7, F and F1 sign types										

TM211

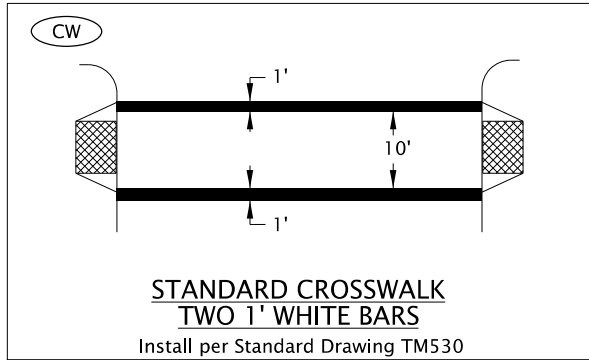


- GENERAL NOTES:**
1. Install Top of Junction Box Flush With The Sidewalk, Surrounding Grade, Or Top Of Curb
 2. Install Junction Boxes At The Approximate Locations Shown, Or If Not Shown, No More Than 300 Feet Apart
 3. More Junction Boxes Than Specified May Be Installed To Facilitate The Work At The Option And Cost Of The Contractor
 4. Use Materials According To 00640.10 and 00640.16. Use Compaction Equipment Suitable For Area And Compact Each Six Inch Layer With Sufficient Coverages To Produce A Firm Unyielding Surface.

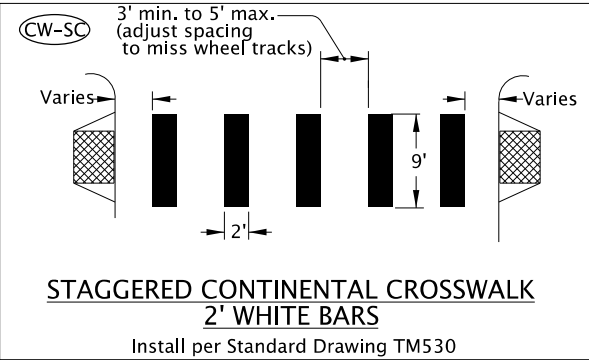
CALC. BOOK NO. _ N/A _ _ _ _ _	BASELINE REPORT DATE _ 2-Jan-2020 _ _ _ _ _
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
TRAFFIC SIGNAL JUNCTION BOXES/ HAND HOLES	
2018	
DATE	REVISION DESCRIPTION
07/18	Added A New Detail & Notes, Revised & Simplified Details
01/20	Added General Note 4

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

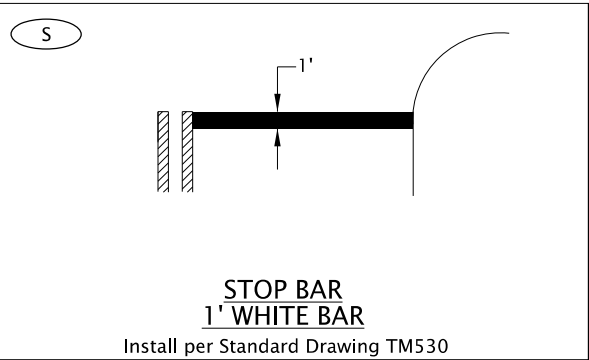
TM472



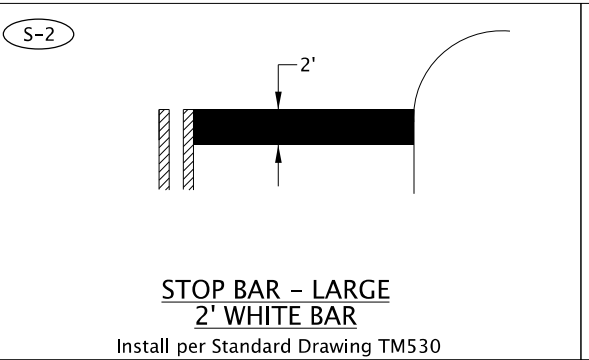
STANDARD CROSSWALK
TWO 1' WHITE BARS
Install per Standard Drawing TM530



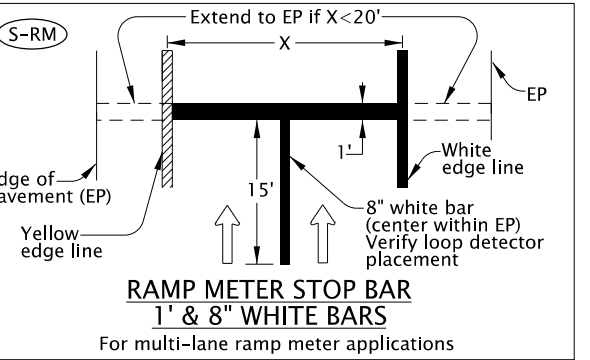
STAGGERED CONTINENTAL CROSSWALK
2' WHITE BARS
Install per Standard Drawing TM530



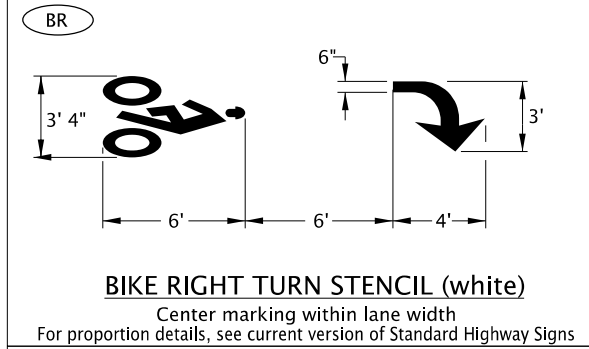
STOP BAR
1' WHITE BAR
Install per Standard Drawing TM530



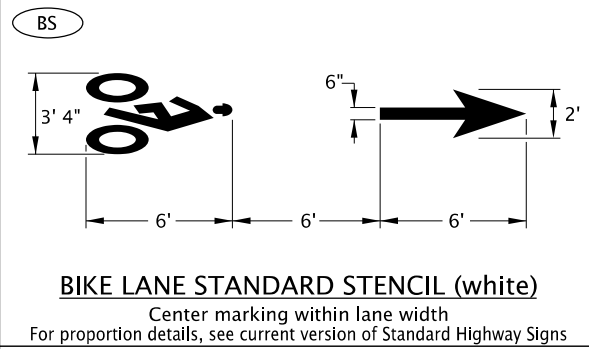
STOP BAR - LARGE
2' WHITE BAR
Install per Standard Drawing TM530



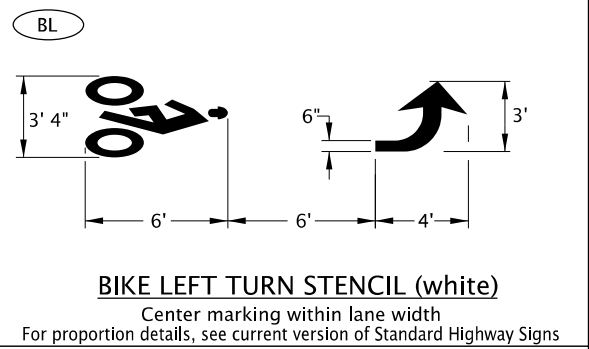
RAMP METER STOP BAR
1' & 8" WHITE BARS
For multi-lane ramp meter applications



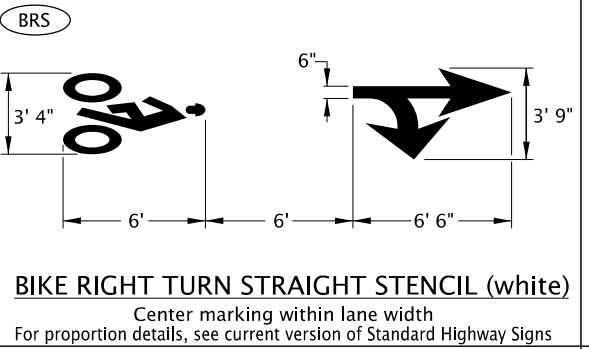
BIKE RIGHT TURN STENCIL (white)
Center marking within lane width
For proportion details, see current version of Standard Highway Signs



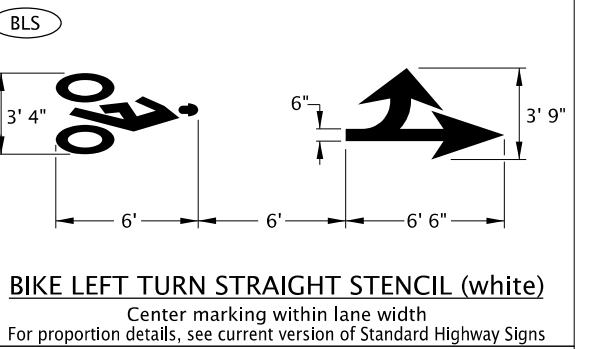
BIKE LANE STANDARD STENCIL (white)
Center marking within lane width
For proportion details, see current version of Standard Highway Signs



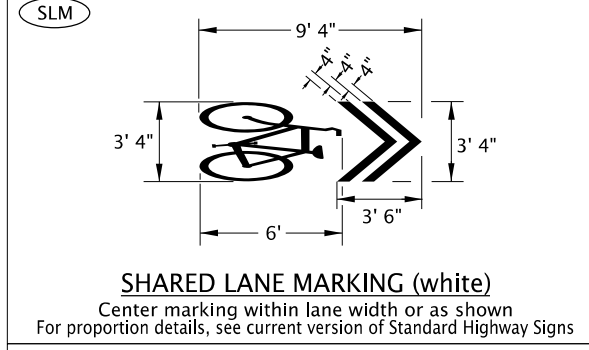
BIKE LEFT TURN STENCIL (white)
Center marking within lane width
For proportion details, see current version of Standard Highway Signs



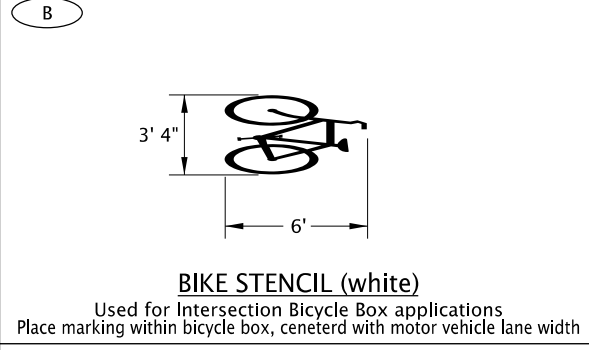
BIKE RIGHT TURN STRAIGHT STENCIL (white)
Center marking within lane width
For proportion details, see current version of Standard Highway Signs



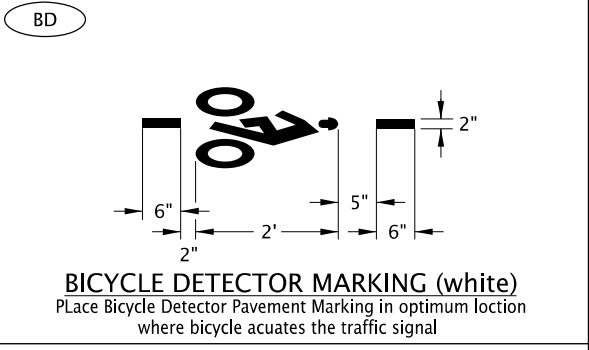
BIKE LEFT TURN STRAIGHT STENCIL (white)
Center marking within lane width
For proportion details, see current version of Standard Highway Signs



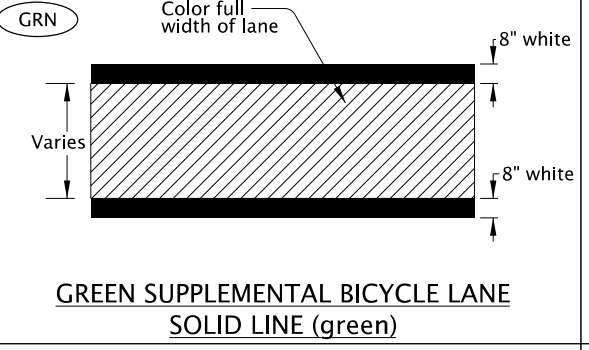
SHARED LANE MARKING (white)
Center marking within lane width or as shown
For proportion details, see current version of Standard Highway Signs



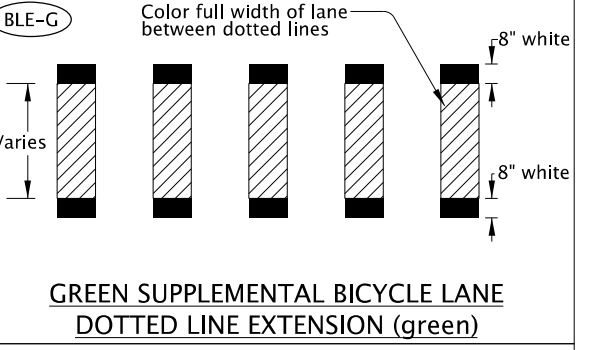
BIKE STENCIL (white)
Used for Intersection Bicycle Box applications
Place marking within bicycle box, centered with motor vehicle lane width



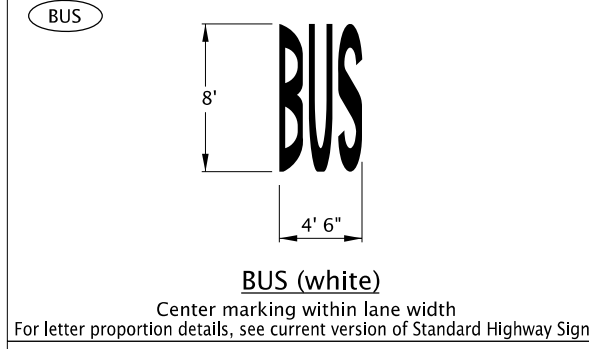
BICYCLE DETECTOR MARKING (white)
Place Bicycle Detector Pavement Marking in optimum location where bicycle acuates the traffic signal



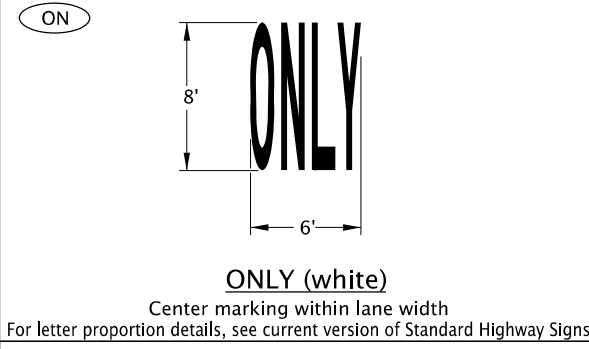
GREEN SUPPLEMENTAL BICYCLE LANE
SOLID LINE (green)



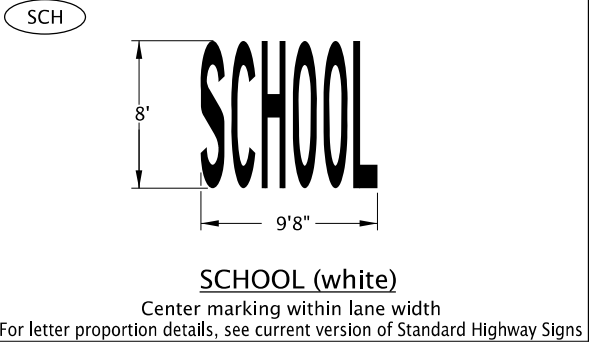
GREEN SUPPLEMENTAL BICYCLE LANE
DOTTED LINE EXTENSION (green)



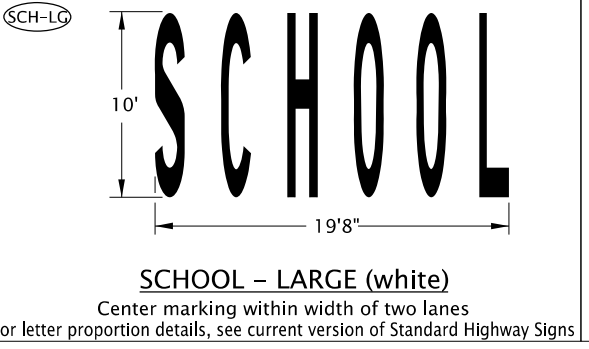
BUS (white)
Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs



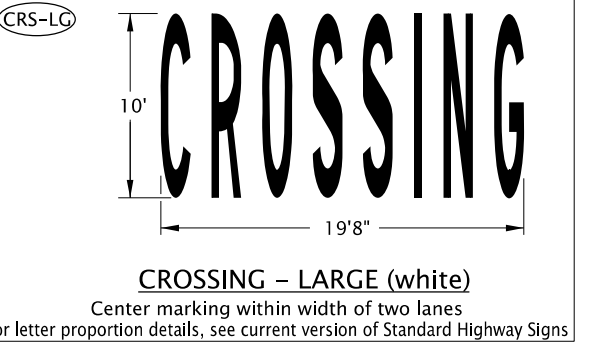
ONLY (white)
Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs



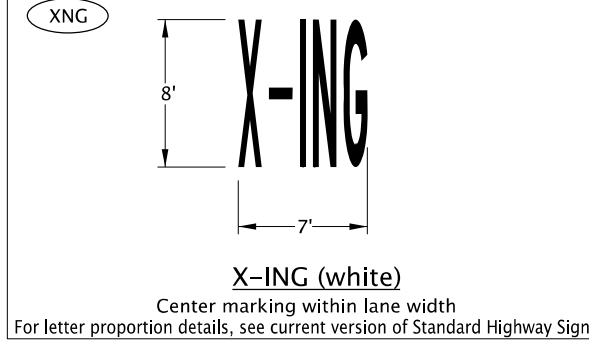
SCHOOL (white)
Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs



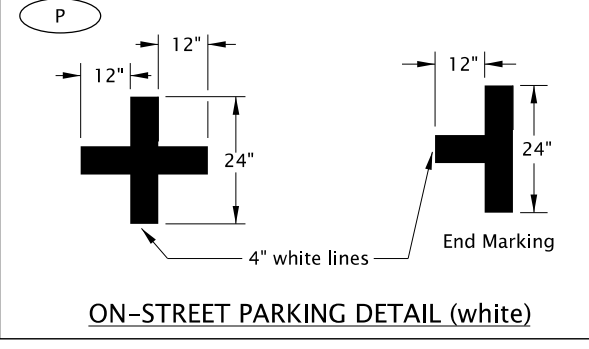
SCHOOL - LARGE (white)
Center marking within width of two lanes
For letter proportion details, see current version of Standard Highway Signs



CROSSING - LARGE (white)
Center marking within width of two lanes
For letter proportion details, see current version of Standard Highway Signs



X-ING (white)
Center marking within lane width
For letter proportion details, see current version of Standard Highway Signs



ON-STREET PARKING DETAIL (white)

General Note:
1. Arrow, letter, and bike symbol dimensions nominal.

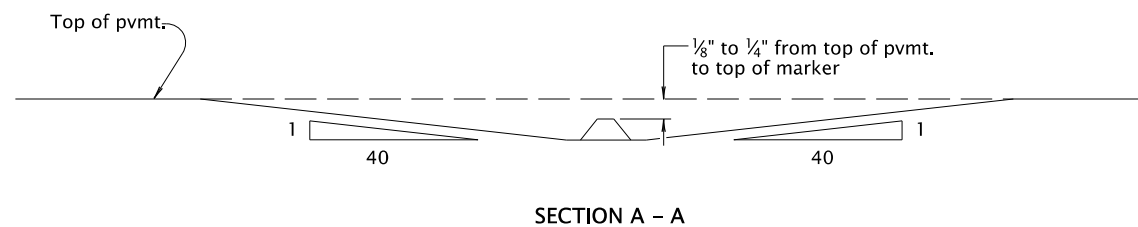
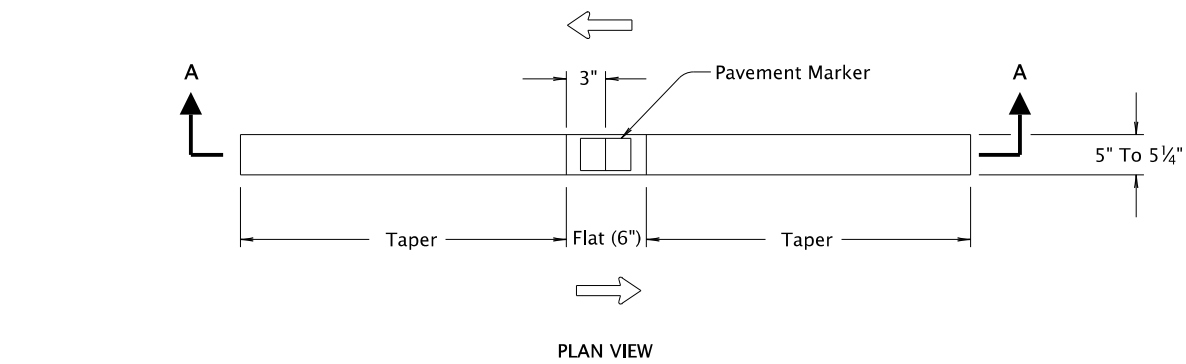
LEGEND
← Direction of Travel

CALC. BOOK NO. ___ N/A ___

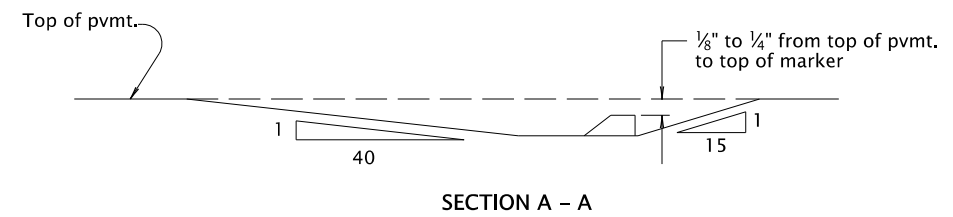
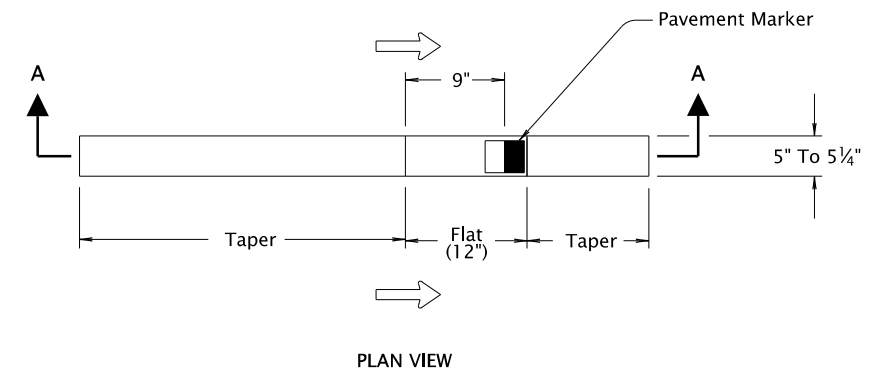
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

BASELINE REPORT DATE ___ 01/03/2020 ___	
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.	
OREGON STANDARD DRAWINGS	
PAVEMENT MARKING	
STANDARD DETAIL BLOCKS	
2018	
DATE	REVISION DESCRIPTION
07/18	Added B, BD, GRN, BLE-G details
01/20	Added BRS and BLS. Rearranged layout and updated BS Modified GRN and BLE-G dimension notation Changed notes for B and BD

TM503



BI-DIRECTIONAL RECESSED PAVEMENT MARKER DETAIL



MONO-DIRECTIONAL RECESSED PAVEMENT MARKER DETAIL

LEGEND

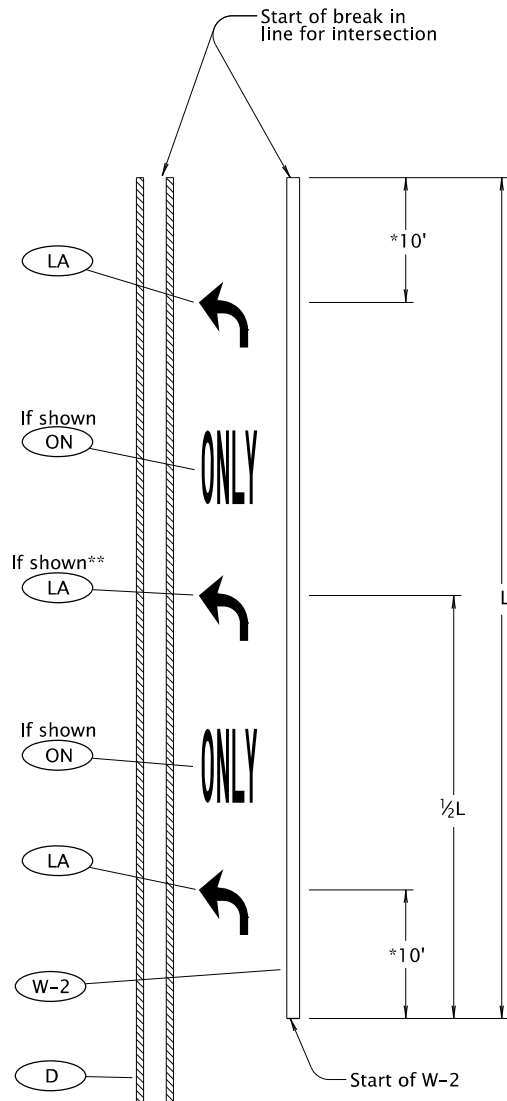
- ← Direction of Travel
- Bi-directional yellow marker reflects yellow both left and right in this symbol
- Mono-directional crystal white marker reflects white to the left in this symbol

To be accompanied by Standard Dwg. Nos. TM502 and TM515

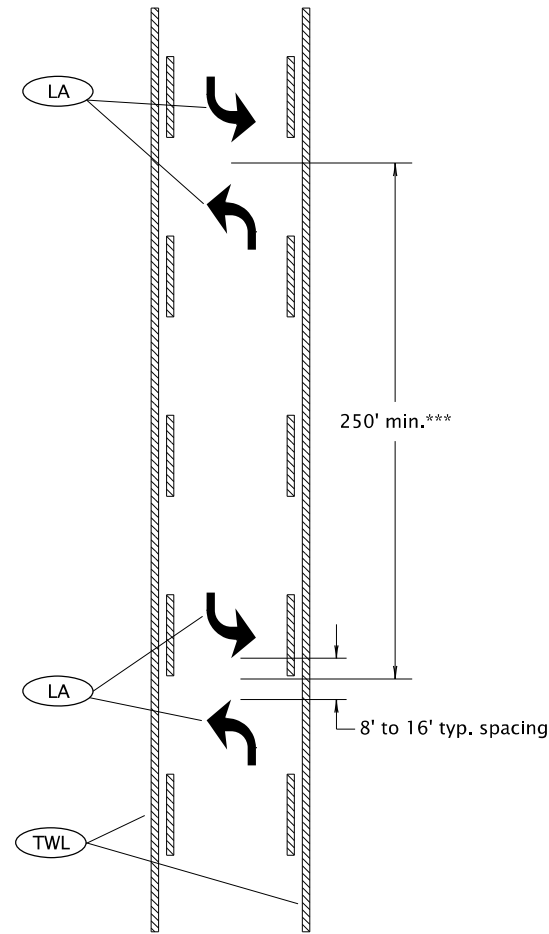
CALC. BOOK NO. ___ N/A ___	BASELINE REPORT DATE ___ 07/01/2015 ___
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.	
OREGON STANDARD DRAWINGS	
RECESSED PAVEMENT MARKERS	
2018	
DATE	REVISION DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

TM517



LANE USE ARROW PLACEMENT FOR TURN LANE
DETAIL "A"



TWO-WAY LEFT TURN LANE ARROW PLACEMENT
DETAIL "B"

General Notes:

- 1) Center pavement marking legends within the lane.
- 2) Placement of lane use arrows with respect to the 8" wide white line (W-2) channelization shown in Detail "A" applies to both left and right turn lanes.
- 3) Center "ONLY" markings between lane use arrows.

* 15' when installing elongated arrows.

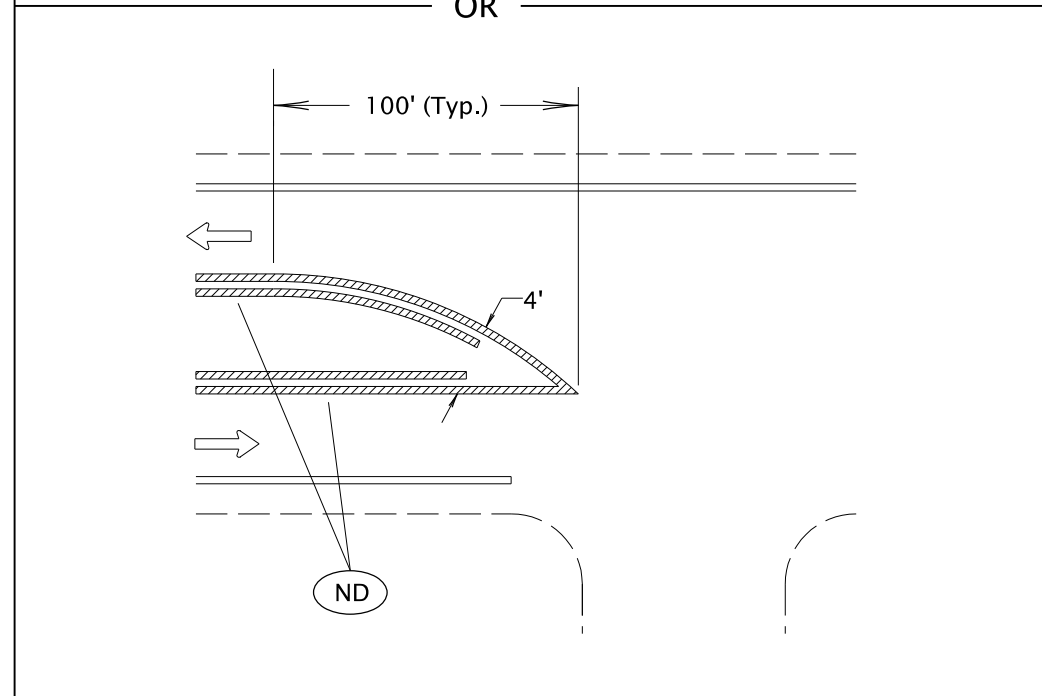
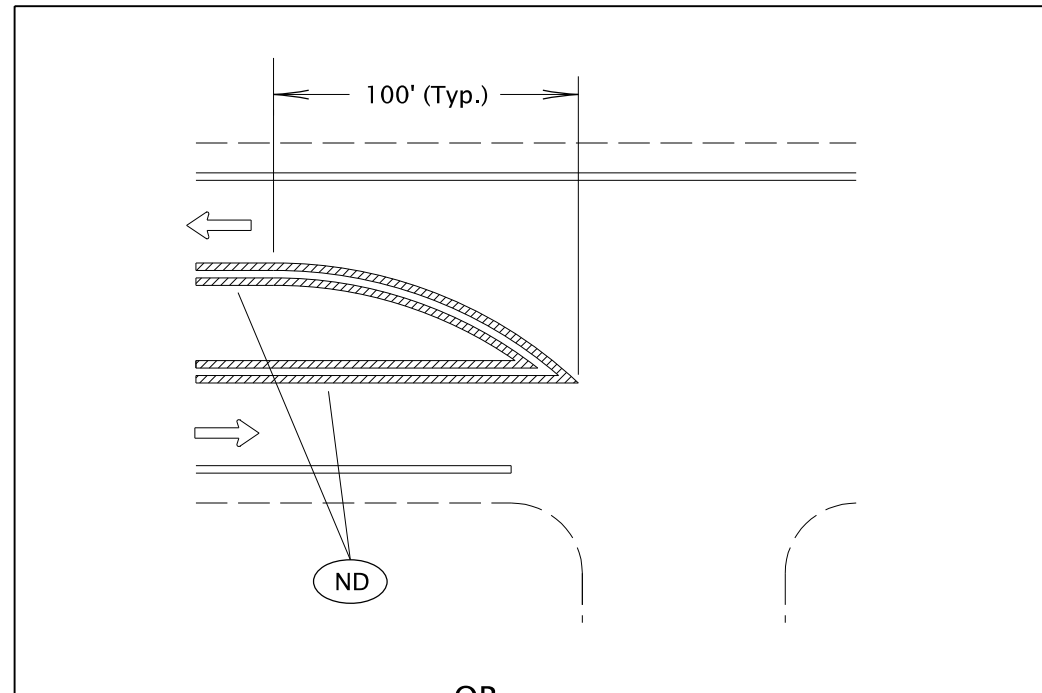
** When L is greater than 400', install 3rd lane use arrow at 1/2 L as shown in Detail "A".

*** Double arrows to be placed at even intervals, proportioned within block or as shown.

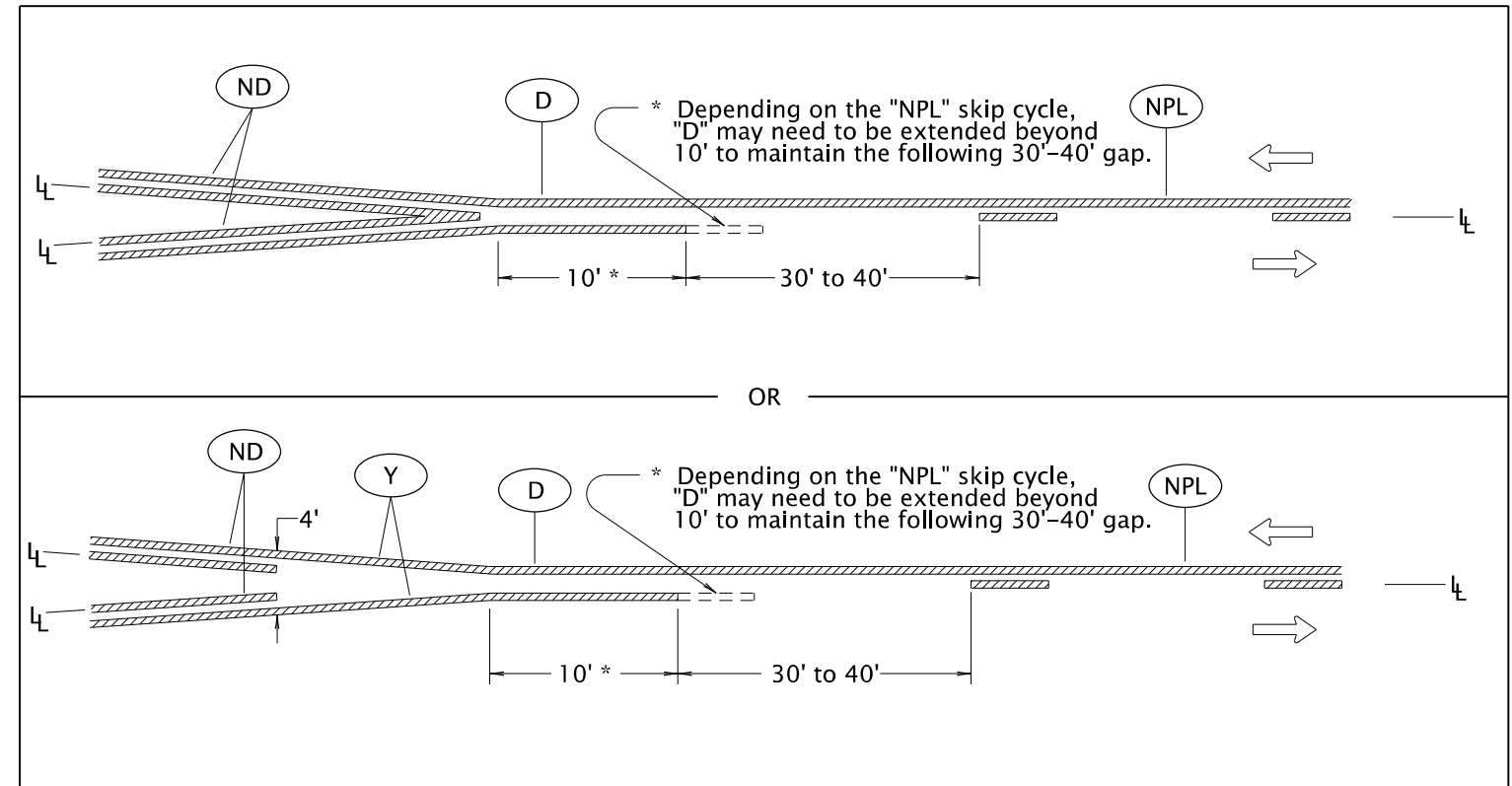
To be accompanied by Standard Dwg. Nos. TM500 thru TM503

CALC. BOOK NO. _ _ _ N/A _ _ _ _ _	BASELINE REPORT DATE _ _ 07/09/2018 _ _ _ _ _
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.	
OREGON STANDARD DRAWINGS	
TURN ARROW MARKING DETAILS	
2018	
DATE	REVISION DESCRIPTION
07/18	Removed "if shown" note from LA near intersection Removed "if shown" note from TWTL arrows

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.



MEDIAN BULLNOSE DETAIL



MEDIAN WIDTH TRANSITION
(TWO NARROW DOUBLE YELLOW LINES TO ONE-DIRECTION NO-PASSING LINE)

To be accompanied by Standard Dwg. Nos. TM500 thru TM503

CALC. BOOK NO. <u> N/A </u>	BASELINE REPORT DATE <u> 07/01/2015 </u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.	
OREGON STANDARD DRAWINGS	
MEDIAN AND LEFT TURN CHANNELIZATION DETAILS	
2018	
DATE	REVISION DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

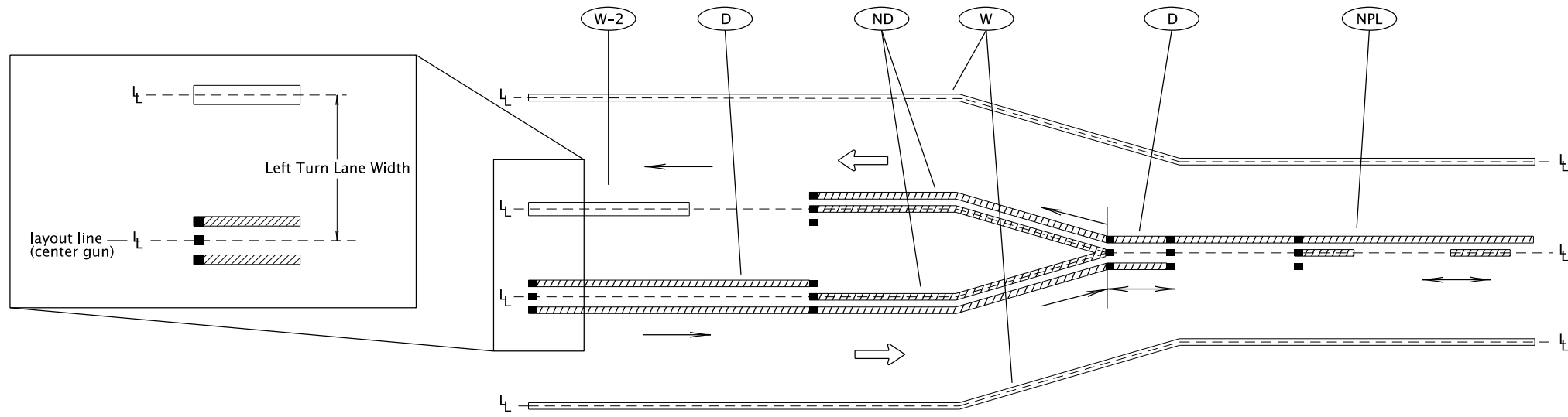
LEGEND

Increasing stationing from left to right

← Direction of Travel

⊥ Lane line dimensions are shown on the striping plans

TM539

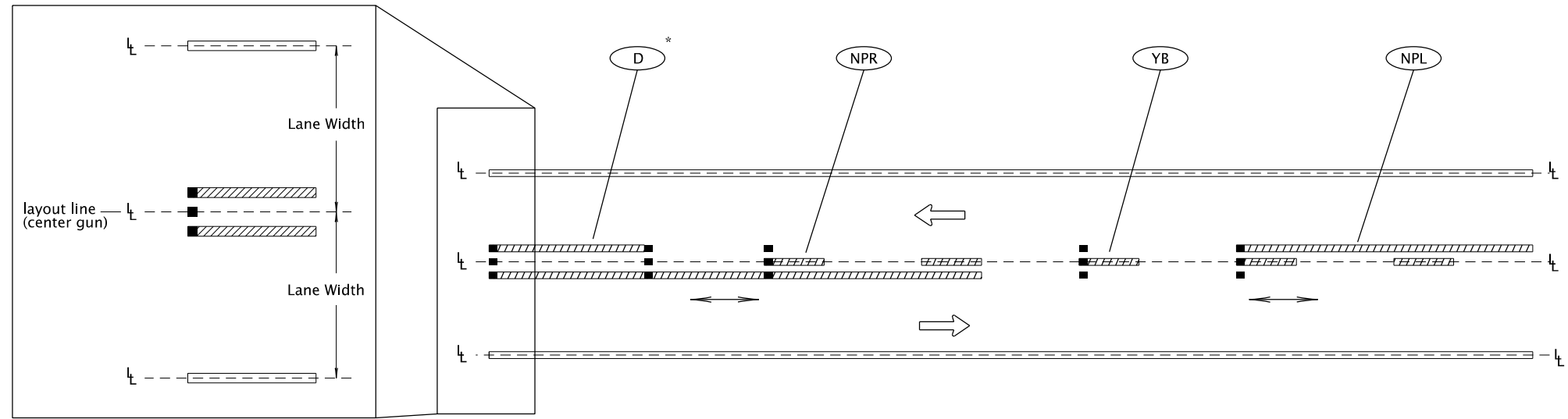


LEFT TURN LANE ALIGNMENT LAYOUT

- General note:
- 1) Install control points for pavement marking alignment layout along the center gun location.
 - 2) Increasing stationing from left to right

LEGEND

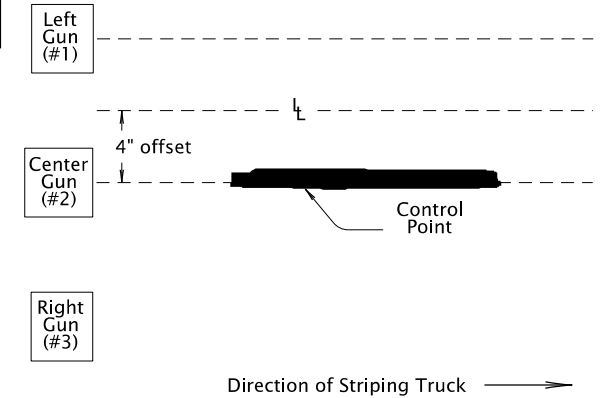
- ← Direction Of Travel and Thru Traffic Side.
- └ Lane line dimensions are shown on the striping plans.
- ↔ Direction of striping truck (may go either direction)
- Direction of striping truck (may go one direction only)
- Three gun installation system (center dot represents center gun)



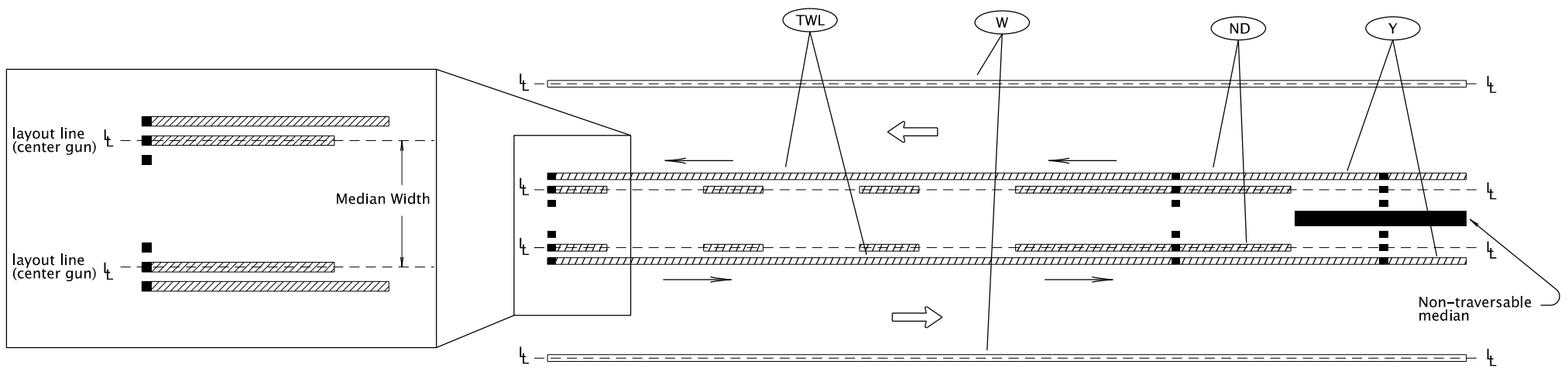
CENTERLINE ALIGNMENT LAYOUT

*When ND is used as centerline markings, a control point layout 4" offset from the lane line is required.

Line Types requiring control points to be 4" offset from lane line:
 ND
 For centerlines only



4" Offset of Lane Line and Center Gun



MEDIAN ALIGNMENT LAYOUT

To be accompanied by Standard Dwg. Nos. TM500 thru TM503

CALC. BOOK NO. ___ N/A ___ BASELINE REPORT DATE ___ 07/01/2015 ___

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.

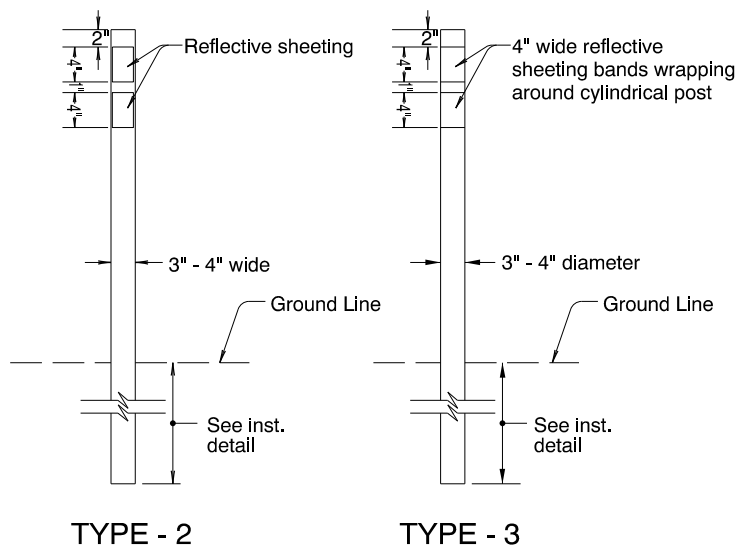
OREGON STANDARD DRAWINGS

ALIGNMENT LAYOUT:
 LEFT TURN LANE,
 CENTERLINE & MEDIANS

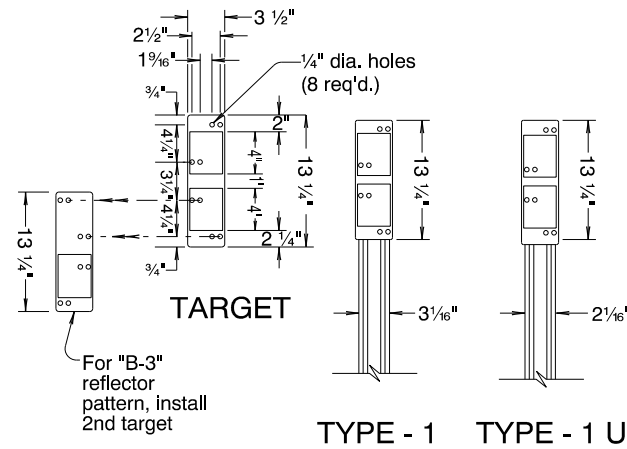
2018

DATE	REVISION DESCRIPTION

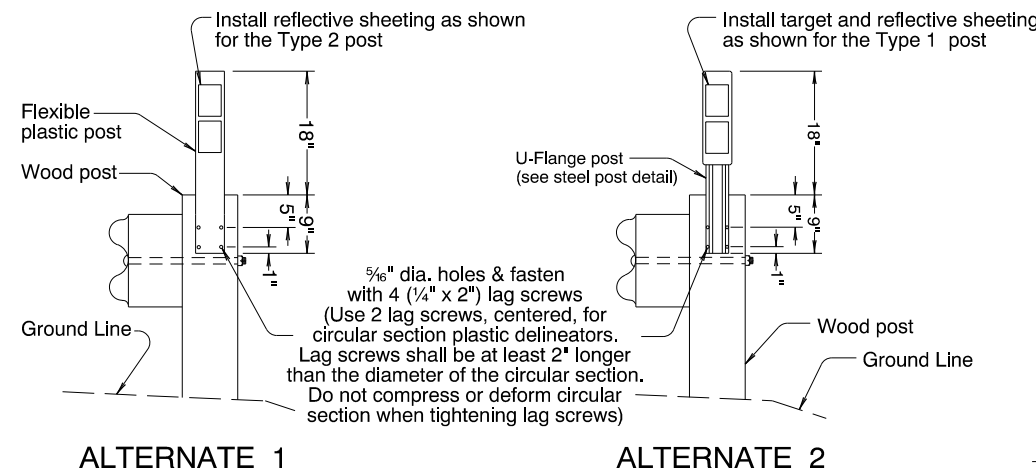
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.



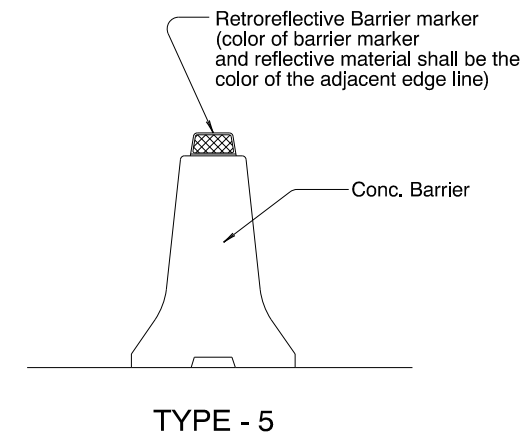
FLEXIBLE PLASTIC POSTS



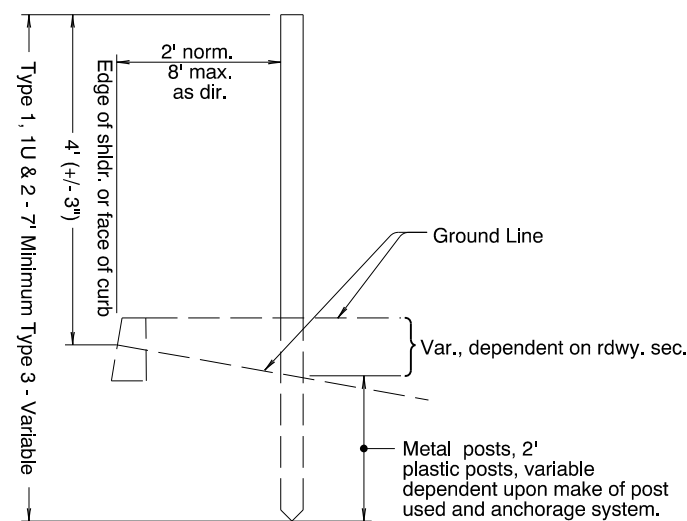
STEEL POSTS



GUARDRAIL AREAS (WITH WOOD POSTS)



CONCRETE BARRIER AREAS



INSTALLATION DETAIL

NOTES:

POST:

Galv. steel, nominal weight Type 1, 2 lb/ft, Type 1 U, 1.12 lb/ft.

See Standard Drawing TM571 for steel post dimensions and details.

TARGET:

Aluminum sheet, nominal thickness .050". Fasten to post with 3/8\"/>

For "B-3" reflector pattern, top target shall overlap bottom target.

REFLECTORS:

3' x 4' reflective sheeting unless otherwise shown. (3 1/2' x 4' reflective sheeting is an acceptable alternate unless otherwise shown.) Acrylic prismatic reflectors acceptable on Type 1, 1 U, 2 and 4 posts and Type 5 barrier mounts. Place required number in sequence from top of target.

GENERAL NOTES:

- Spacing shall be measured along the shoulder.
- On roads with less than 500 vehicle ADT, delineators are not to be used except where situations such as sharp horizontal curves, etc. exist.
- To clear driveways, crossroads etc., or for required adjustments at ramps and at intersections, either:
 - vary placement of that post up to 25% of spacing shown, or;
 - eliminate said post if limit of variation must be exceeded.
- Judgement should be exercised in the installation of delineators in cut section, particularly on roads constructed to older standards where ditches are narrow and where delineators tend to hamper maintenance operations.
- On horizontal curves place delineators nearly opposite each other.
- At guard rail locations the delineators are to be installed behind the rail and shall be located adjacent to guard rail posts as shown for Type 4 Delineators.
- Install all delineators with reflectors facing adjacent oncoming traffic.
- Offset delineators an additional 4' in areas of heavy snow removal operations.
- Backside Delineators may be used in frequently snow plowed areas where use of snow poles is not justified. When Backside Delineators are specified, substitute "W-1" and "W-2" with "W-1B" and "W-2B" respectively, on Type 1 steel posts. Do not install Backside Delineators on one-way sections of roadway, freeways and ramps, or on radius sections.
- Refer to TM 222 for bracket assembly details for Backside Reflector Pattern.

To be accompanied by Drg. No. TM571, TM575, TM576, and/or TM577 as specified.

REFLECTOR PATTERN TABLE					
	Color Type	Color Of Reflector And Target Or Post	Number Of Reflectors	Color Of Reflector And Target Or Post On Backside	Number Of Reflectors On Backside
Standard Pattern	"W-1"	White	1	Not Applicable	Not Applicable
	"W-2"	White	2		
	"Y-1"	Yellow	1		
	"Y-2"	Yellow	2		
	"B-1"	Blue	1		
	"B-2"	Blue	2		
	"B-3"	Blue	3		
	"R-1"	Red	1		
Backside Pattern	"W-1B"	White	1	White	2
	"W-2B"	White	2	White	2

TANGENT ▲ MAX. SPACING EACH SIDE OF ROADWAY IN FEET	HORIZONTAL CURVES ▲ MAX. SPACING EACH SIDE OF ROADWAY IN FEET				
	DEGREE OF CURVE	ON CURVE	IN ADVANCE OF & BEYOND CURVE		
			FIRST SPACE	SECOND SPACE	THIRD SPACE
400	Lower Than 1	300	300	300	300
	1	230	300	300	300
	2	160	300	300	300
	3	130	260	300	300
	4	110	220	300	300
	5	100	200	300	300
	6	90	180	270	300
	7 - 8	80	160	240	300
	9 - 11	70	140	210	300
	12 - 16	60	120	180	300
	17 - 22	50	100	150	300
	23 - 34	40	80	120	240
	35 - 53	30	60	90	180
	54 & Higher	20	40	60	120

(Min. spacing 20 feet)

(▲ Install "W-1" reflective pattern unless otherwise noted. See Standard Drawings TM575 thru TM577 for spacing, layout, and reflective pattern of delineators at interchange ramps, channelized intersections, lane reductions, emergency escape ramps and freeway crossovers.)

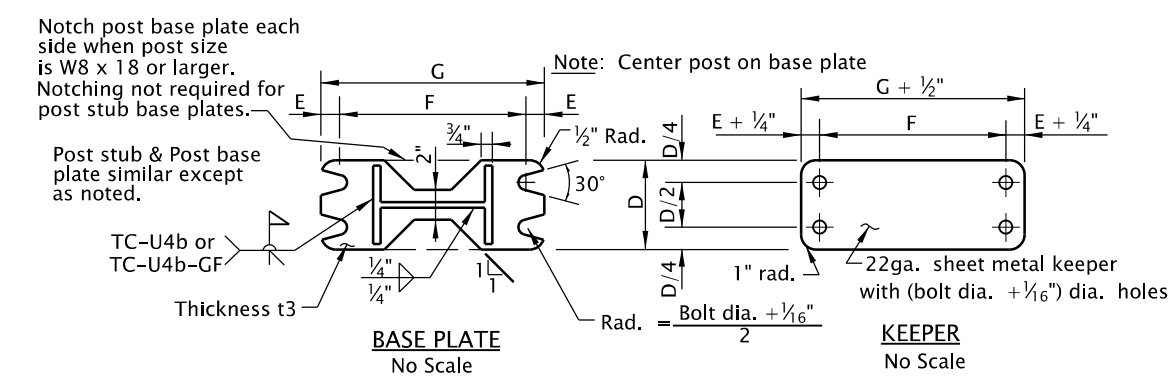
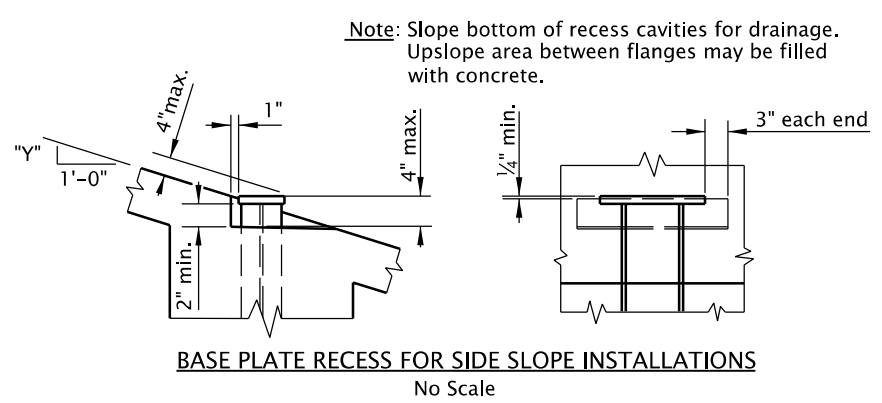
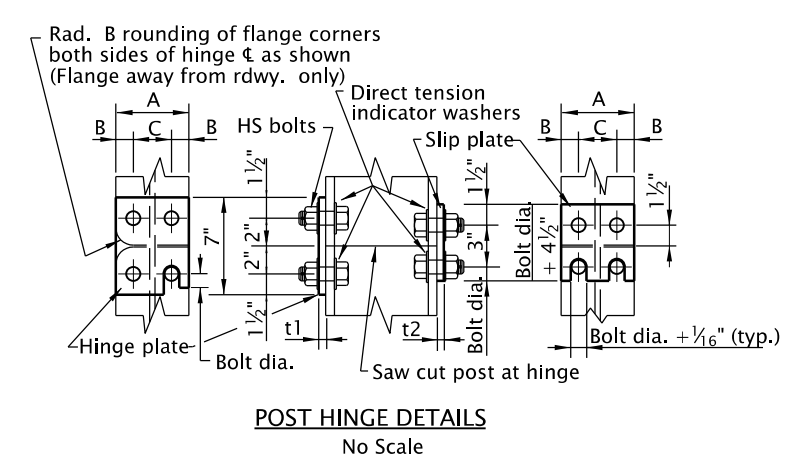
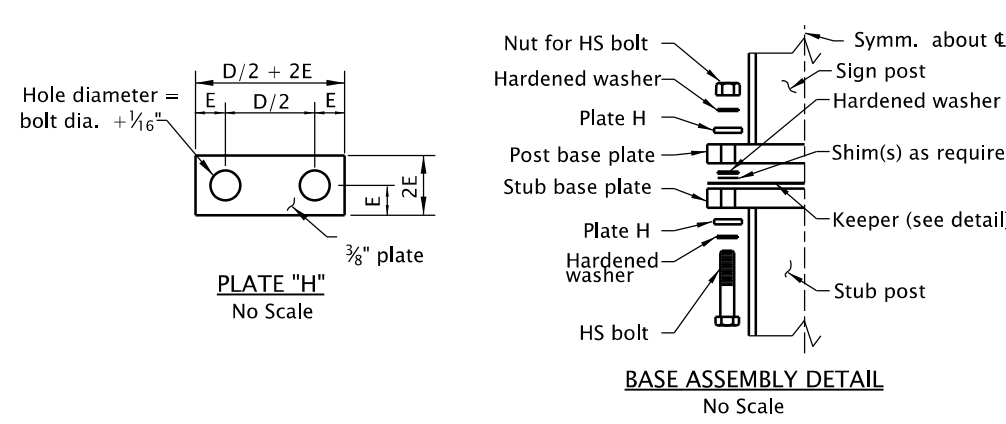
DELINEATOR SPACING TABLE FOR TYPES 1, 1U, 2, and 4

CALC. BOOK NO. <u> N/A </u>	BASELINE REPORT DATE <u> 01/06/2012 </u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
TRAFFIC DELINEATORS	
2018	
DATE	REVISION DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

Post & Stub	Hinge Data								Base Plate Data								Footing Data		Min. Footing Depth			Max. Footing Slope		
	Depth & Mass/ft	Hinge t_1	Slip t_2	A	B	C	Hinge Bolts		Base t_3	D	E	F	G	Bolt				Stub Length	V bars	2'-0" dia.	3'-0" dia.	4'-0" dia.	Rise per ft. "Y"	Grade
							Dia.	Length						dia.	"T1" Torque	"T2" Torque	Length							
W6 x 9	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	4"	$\frac{7}{8}$ "	$2\frac{1}{4}$ "	$\frac{3}{4}$ "	2"	1"	$4\frac{1}{4}$ "	$\frac{3}{4}$ "	$8\frac{1}{2}$ "	10"	$\frac{5}{8}$ "	150 ft.-lb.	50 ft.-lb.	$4\frac{1}{4}$ "	2'-0"	#4	4'-9"	—	—	12"	1V:1.00H
W6 x 12	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{3}{8}$ "	4"	$\frac{7}{8}$ "	$2\frac{1}{4}$ "	$\frac{3}{4}$ "	2"	1"	$4\frac{1}{2}$ "	$\frac{3}{4}$ "	$8\frac{1}{2}$ "	10"	$\frac{5}{8}$ "	150 ft.-lb.	50 ft.-lb.	$4\frac{1}{4}$ "	2'-4"	#5	5'-6"	—	—	11 1/4"	1V:1.07H
W6 x 15	$\frac{3}{8}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	6"	$1\frac{1}{4}$ "	$3\frac{1}{2}$ "	$\frac{7}{8}$ "	$2\frac{1}{2}$ "	1"	$6\frac{1}{4}$ "	$\frac{7}{8}$ "	$8\frac{1}{2}$ "	$10\frac{1}{4}$ "	$\frac{3}{4}$ "	280 ft.-lb.	70 ft.-lb.	$4\frac{1}{2}$ "	2'-8"	#6	6'-6"	—	—	7 1/4"	1V:1.66H
W8 x 18	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$5\frac{1}{4}$ "	$1\frac{1}{4}$ "	$2\frac{3}{4}$ "	$\frac{7}{8}$ "	$2\frac{1}{2}$ "	$1\frac{3}{8}$ "	$5\frac{1}{2}$ "	$\frac{7}{8}$ "	$11\frac{3}{4}$ "	$1'-1\frac{1}{2}$ "	$\frac{3}{4}$ "	280 ft.-lb.	70 ft.-lb.	5"	3'-0"	#7	8'-0"	6'-6"	—	8 1/2"	1V:1.41H
W8 x 21	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$5\frac{1}{4}$ "	$1\frac{1}{4}$ "	$2\frac{3}{4}$ "	1"	$2\frac{3}{4}$ "	$1\frac{3}{8}$ "	6"	1"	$11\frac{3}{4}$ "	$1'-1\frac{3}{4}$ "	$\frac{7}{8}$ "	450 ft.-lb.	80 ft.-lb.	$5\frac{1}{4}$ "	3'-4"	#8	8'-9"	7'-0"	—	7 1/2"	1V:1.60H
W10 x 22	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$5\frac{3}{4}$ "	$1\frac{1}{2}$ "	$2\frac{3}{4}$ "	1"	$2\frac{3}{4}$ "	$1\frac{3}{8}$ "	6"	1"	$1'-1\frac{1}{2}$ "	$1'-3\frac{1}{2}$ "	$\frac{7}{8}$ "	450 ft.-lb.	80 ft.-lb.	$5\frac{1}{4}$ "	3'-8"	#8	10'-3"	7'-9"	6'-6"	7 1/2"	1V:1.60H
W10 x 26	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$5\frac{3}{4}$ "	$1\frac{1}{2}$ "	$2\frac{3}{4}$ "	$1\frac{1}{8}$ "	3"	$1\frac{3}{8}$ "	7"	$1\frac{1}{8}$ "	$1'-1\frac{1}{2}$ "	$1'-3\frac{3}{4}$ "	1"	680 ft.-lb.	90 ft.-lb.	$5\frac{1}{2}$ "	4'-0"	#9	11'-0"	8'-9"	7'-3"	6 3/8"	1V:1.88H
W12 x 26	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$6\frac{1}{2}$ "	$1\frac{1}{2}$ "	$3\frac{1}{2}$ "	$1\frac{1}{8}$ "	3"	$1\frac{1}{2}$ "	7"	$1\frac{1}{8}$ "	$1'-3\frac{1}{2}$ "	$1'-5\frac{3}{4}$ "	1"	680 ft.-lb.	90 ft.-lb.	$5\frac{3}{4}$ "	4'-4"	#10	12'-3"	9'-6"	8'-0"	6 3/8"	1V:1.88H
W12 x 30	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$6\frac{1}{2}$ "	$1\frac{1}{2}$ "	$3\frac{1}{2}$ "	$1\frac{1}{4}$ "	3"	$1\frac{1}{2}$ "	8"	$1\frac{1}{4}$ "	$1'-3\frac{1}{2}$ "	$1'-6"$	$1\frac{1}{8}$ "	840 ft.-lb.	100 ft.-lb.	$5\frac{3}{4}$ "	4'-8"	#11	13'-3"	10'-6"	8'-9"	5 3/8"	1V:2.23H
W14 x 30	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{5}{8}$ "	$6\frac{3}{4}$ "	$1\frac{1}{2}$ "	$3\frac{3}{4}$ "	$1\frac{1}{4}$ "	3"	$1\frac{1}{2}$ "	8"	$1\frac{1}{4}$ "	$1'-5\frac{1}{2}$ "	$1'-8"$	$1\frac{1}{8}$ "	840 ft.-lb.	100 ft.-lb.	$5\frac{3}{4}$ "	5'-0"	#11	13'-9"	10'-9"	9'-0"	5 1/2"	1V:2.18H

Notes:
 1. See TM635 for placement of signs.
 2. See TM600 for Additional details and bolting procedures.



Accompanied by dwgs. TM220, TM600, TM635, TM675

CALC. BOOK NO. 1493 BASELINE REPORT DATE 06-JAN-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

MULTI-POST BREAKAWAY SIGN SUPPORT DETAILS

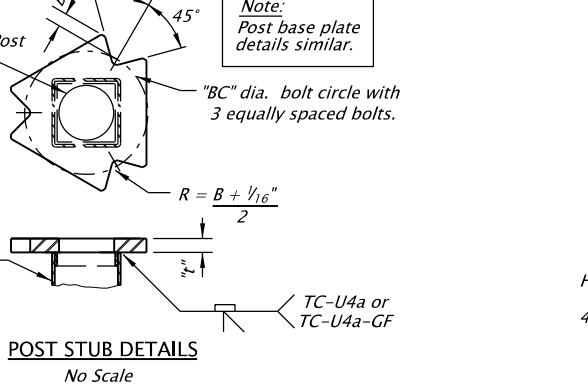
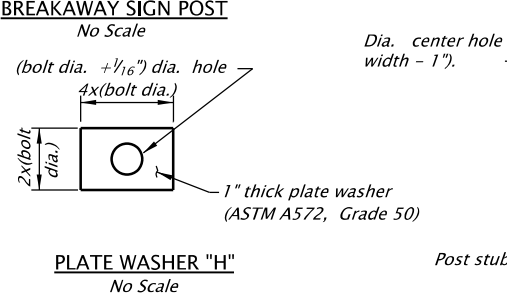
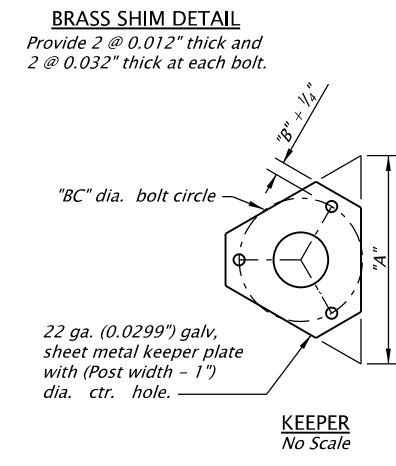
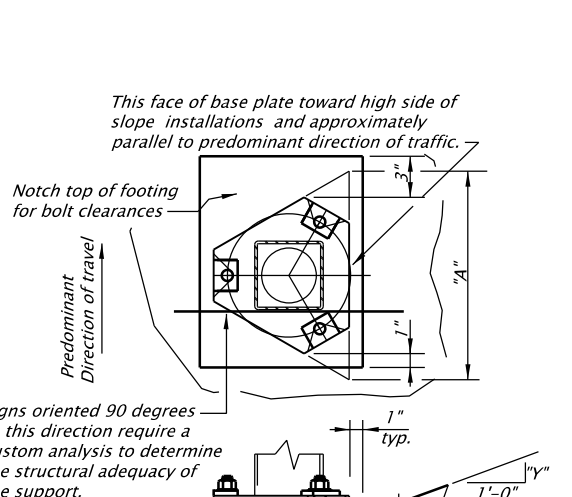
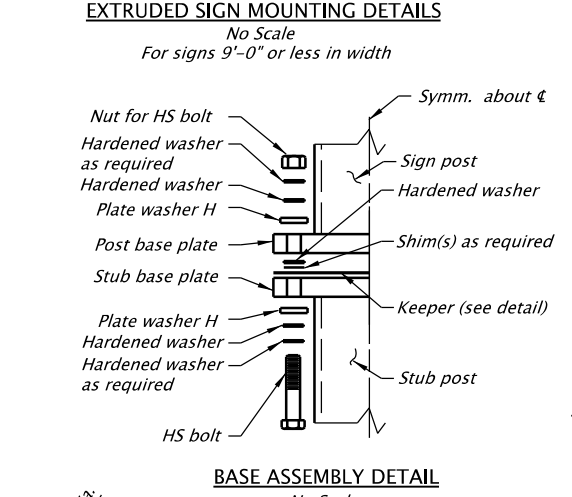
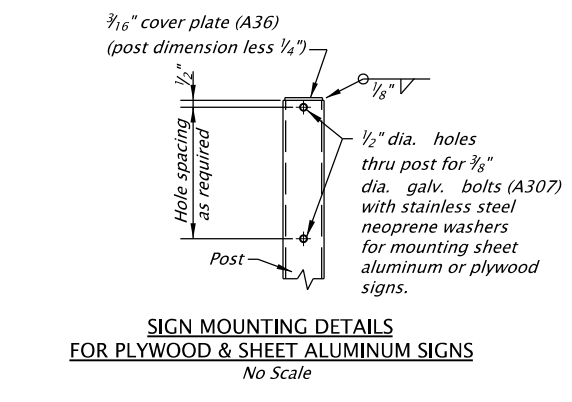
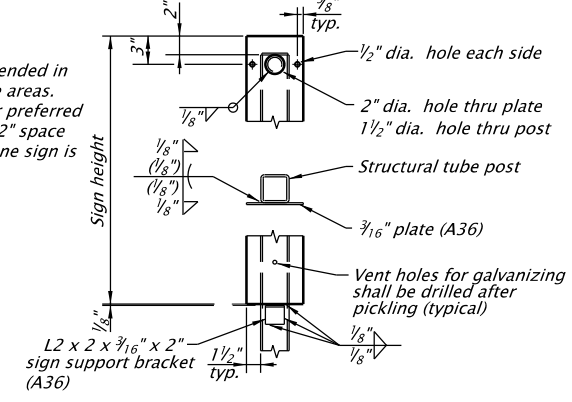
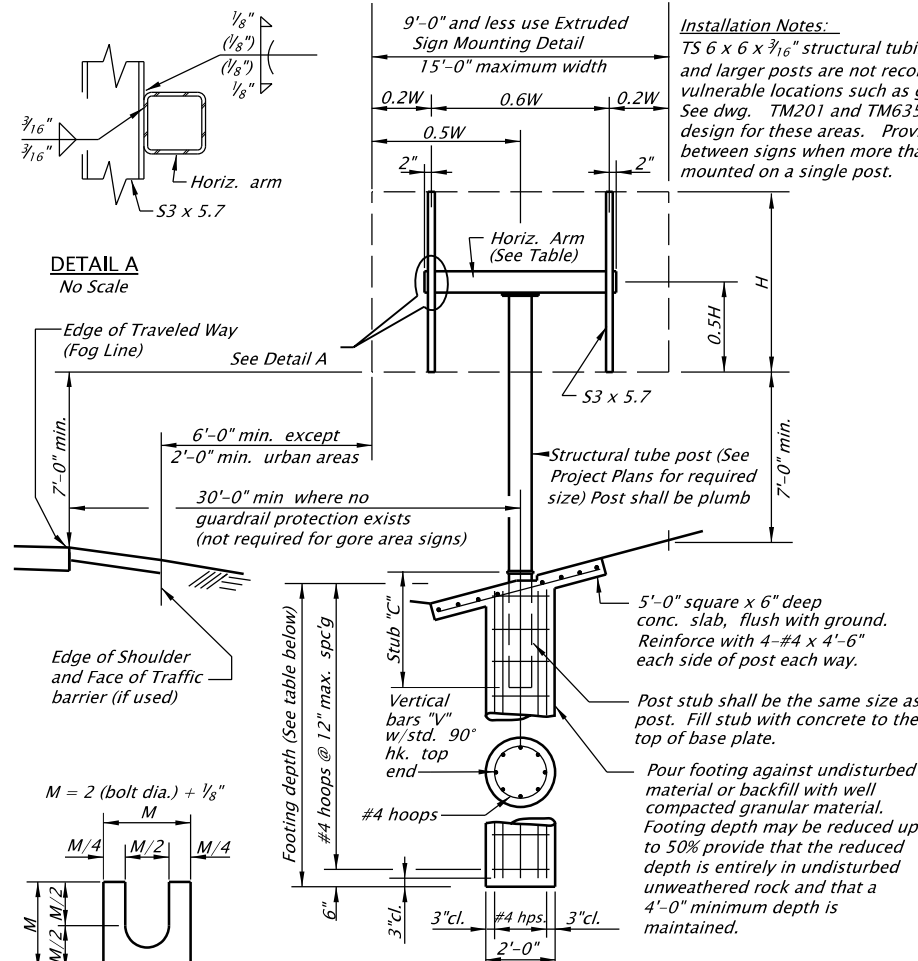
2018

DATE	REVISION DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

tm602.dgn 10-JUL-2017

TM602

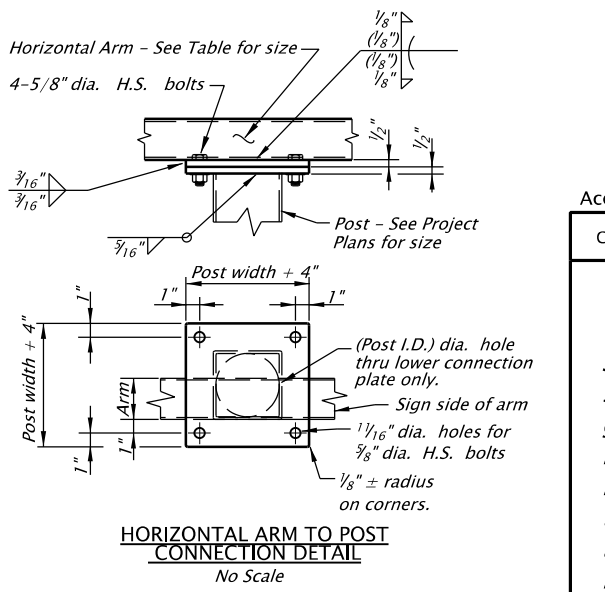


- GENERAL NOTES:**
- Sign supports are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 1994. Use a wind velocity with a 10-year mean recurrence interval.
 - All concrete shall be Commercial Grade Concrete (f'c = 3000 psi)
 - All reinforcing steel shall conform to AASHTO Specification M31, Grade 60, or ASTM A706.
 - The following splice lengths shall be used unless otherwise shown:

Bar Size	#4	#5
Splice Length (mm)	1'-1"	1'-5"
 - Structural steel shall conform to AASHTO M223 (ASTM A572) Grade 50, unless shown otherwise.
 - Structural tubing shall conform to ASTM Specification A500, Grade B, or A501.
 - Shims shall be fabricated from brass shim stock conforming to ASTM B36.
 - All bolts shall be high strength bolts conforming to to ASTM Specification A325 (AASHTO M164). Nuts for high strength bolts shall be well lubricated heavy hexagon nuts conforming to ASTM Specification A563, (AASHTO M291), Grade DH. Hardened steel washers shall conform to ASTM Specification F436 (AASHTO M293).
 - Steel sheet for keepers shall conform to ASTM Specification A653.
 - Base plate holes shall be sub-drilled and reamed to size. Base plate slot shall be saw cut or machine guided flame cut.
 - Keeper sheet metal shall be galvanized in accordance with ASTM A653, Coating G165. All other steel including fasteners shall be hot-dip galvanized after fabrication. Remove galvanizing runs and beads on all slip surfaces. Nuts for high strength bolts may be retapped after galvanizing.
 - The use of post larger than required by design will not be permitted.
 - See Dwg. TM675 for sign and sign mounting details.

- BASE PLATE BOLTING PRODEDURE:**
- Assemble post to stub as shown in Base Assembly Detail.
 - Shim as required to plumb post. (± 1/16"/vert. 12") (2 shims maximum per bolt)
 - Tighten bolts in a systematic order to the "T1" ft-lbs torque.
 - Loosen and retighten bolts to the "T2" ft-lbs torque. Use the same order as the initial tightening and DO NOT OVER TIGHTEN!
 - Burr threads at junction with nut using a center punch.

Structural Tubing Post and Post Stub Size	Structural Tubing Horiz. Arm (if req'd)	Slip Base Data								Footing Data				
		Base Plate		Bolt						Post Stub Length	Vert. Reinf. Bars "V"	Footing Depth		Max. Slope Rise per ft. "Y"
		"A"	"B"	Dia.	Length	Circle "BC"	"T1" ft-lbs torque	"T2" ft-lbs torque	Num. of additional washers			2'-0" Dia.	4'-0" Dia.	
TS 3 x 3 x 3/16	TS 3 x 3 x 3/16	3/4"	10"	1/2"	5"	6"	50	30	2	1'-6"	8-#4	3'-0"	—	6.3"
TS 3 1/2 x 3 1/2 x 3/16	TS 3 x 3 x 3/16	3/4"	11 3/8"	5/8"	5"	6 3/4"	150	50	—	1'-9"	8-#4	3'-6"	—	5.5"
TS 4 x 4 x 3/16	TS 3 x 3 x 3/16	1"	1'-0 3/8"	3/8"	5 1/2"	7 1/2"	150	50	—	2'-0"	8-#4	4'-0"	—	5.2"
TS 5 x 5 x 3/16	TS 3 x 3 x 3/16	1"	1'-2 3/8"	3/4"	5 1/2"	9"	280	70	—	2'-3"	8-#4	4'-6"	4'-0"	4.4"
TS 6 x 6 x 3/16	TS 3 x 3 x 3/16	1 1/4"	1'-4 7/8"	7/8"	6 1/2"	10 1/2"	450	75	1	2'-6"	8-#5	5'-0"	4'-0"	3.8"
TS 7 x 7 x 3/16	TS 4 x 4 x 3/16	1 1/4"	1'-6 1/4"	7/8"	6 1/2"	12"	450	75	1	3'-0"	8-#5	6'-0"	4'-6"	3.5"
TS 8 x 8 x 3/16	TS 5 x 5 x 3/16	1 3/8"	1'-8 1/2"	1"	7"	1'-1 1/2"	680	75	1	3'-6"	12-#5	7'-0"	5'-0"	3.1"



Accompanied by dwgs. TM200, TM201, TM635, TM675

CALC. BOOK NO. 1493

BASELINE REPORT DATE 09-JAN-2015

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

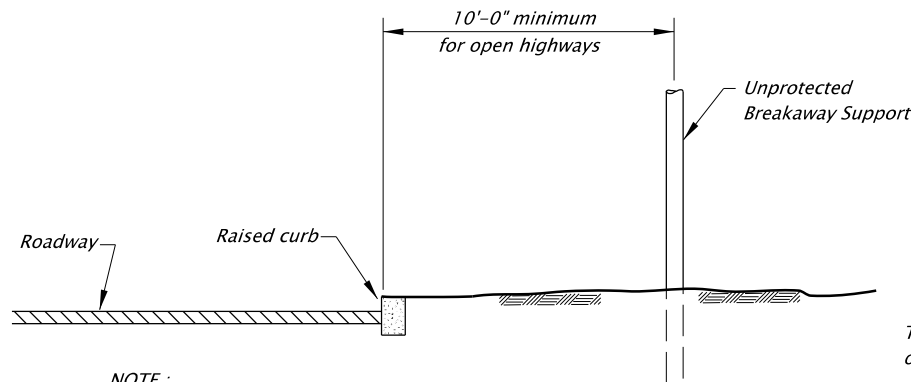
TRIANGULAR BASE BREAKAWAY MULTI-DIRECTIONAL SLIP BASE DESIGN

2018

DATE _____ REVISION DESCRIPTION _____

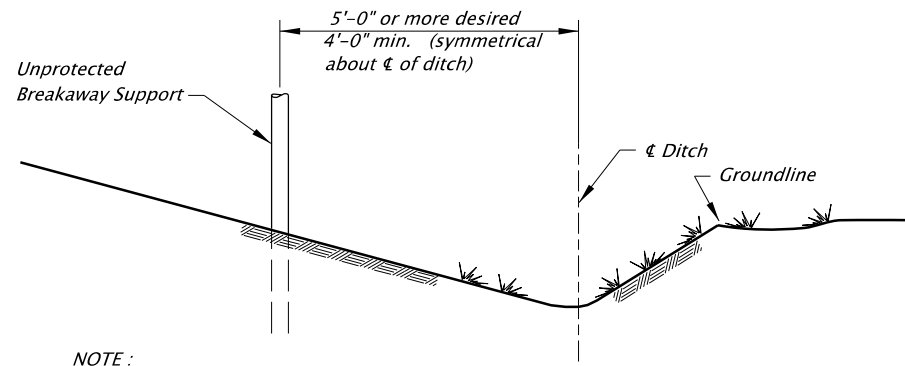
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

tm635.dgn 10-JUL-2017



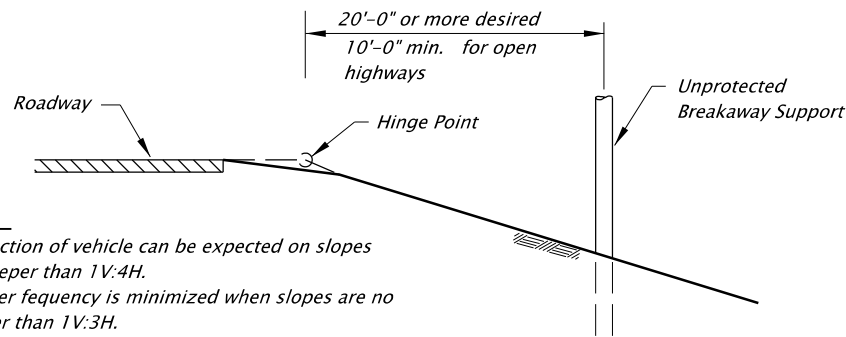
NOTE:
Locate supports far enough behind curb to allow vehicle to stabilize before impacting support.

BREAKAWAY SUPPORTS BEHIND RAISED CURBS



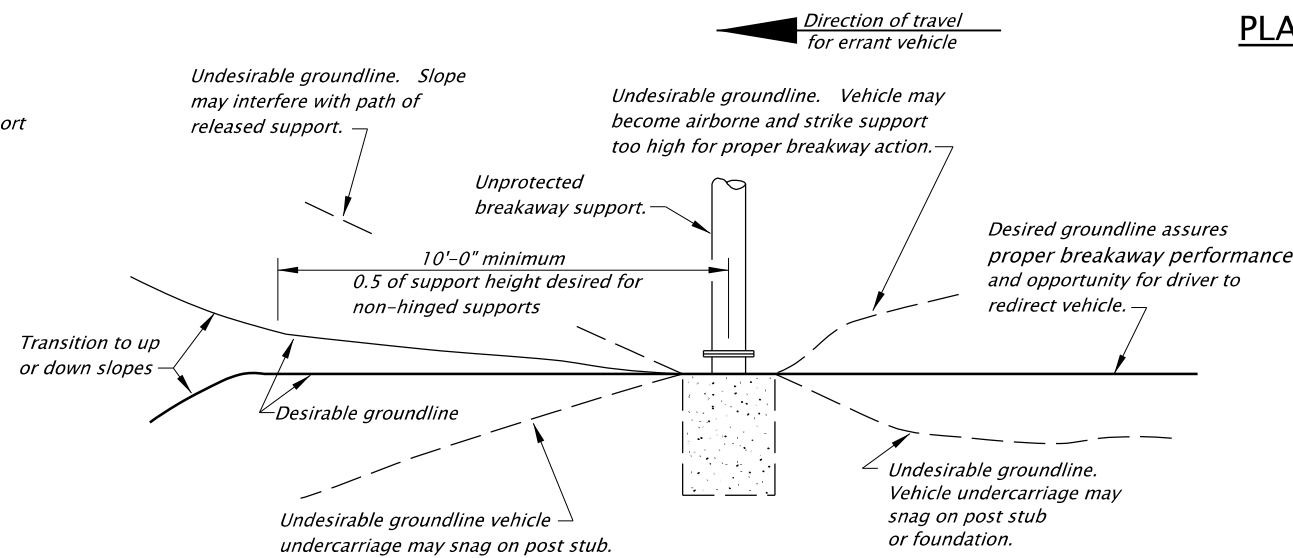
NOTE:
Locate breakaway supports away from ditches to avoid problems with erosion, corrosion, debris, maintenance, and breakaway performance.

BREAKAWAY SUPPORTS NEAR DITCHES



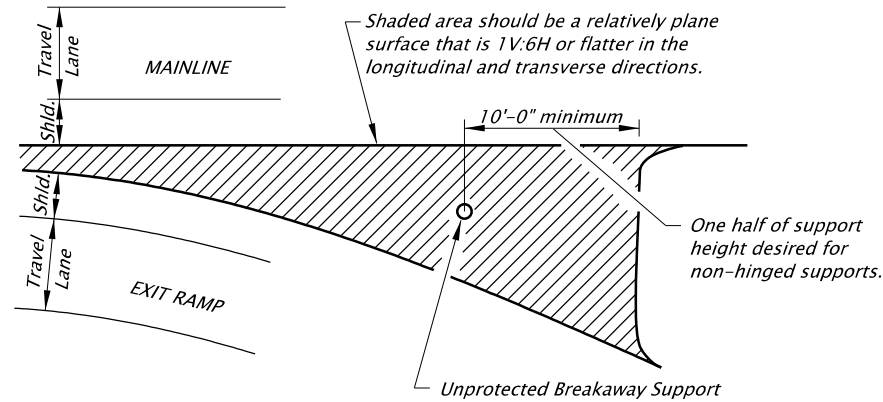
NOTE:
Redirection of vehicle can be expected on slopes no steeper than 1V:4H.
Rollover frequency is minimized when slopes are no steeper than 1V:3H.
Locate support beyond hinge point as shown to allow vehicle to stabilize before impact.

BREAKAWAY SUPPORT ON FILL SLOPE

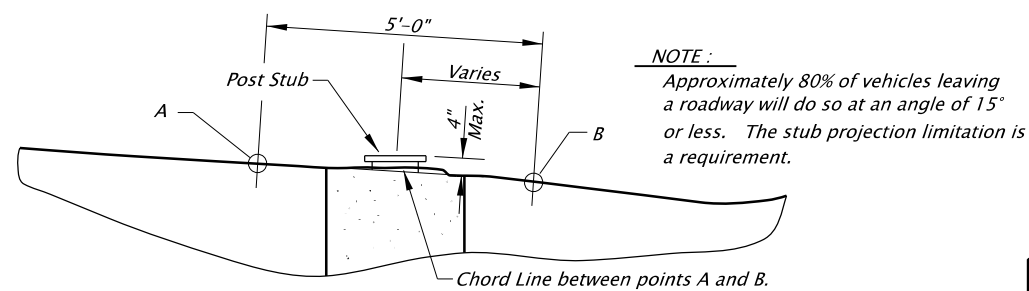


BREAKAWAY SUPPORT - PARTIAL ELEVATION

(Along possible paths of errant vehicles)



GORE AREA BREAKAWAY SUPPORT LOCATION



NOTE:
Approximately 80% of vehicles leaving a roadway will do so at an angle of 15° or less. The stub projection limitation is a requirement.

UNPROTECTED BREAKAWAY SUPPORT CLEARANCE DIAGRAM

Section perpendicular to assumed path of errant vehicle. (Most likely path is a 15° angle from adjacent traffic flow)

PLACEMENT OF UNPROTECTED BREAKAWAY SUPPORTS:

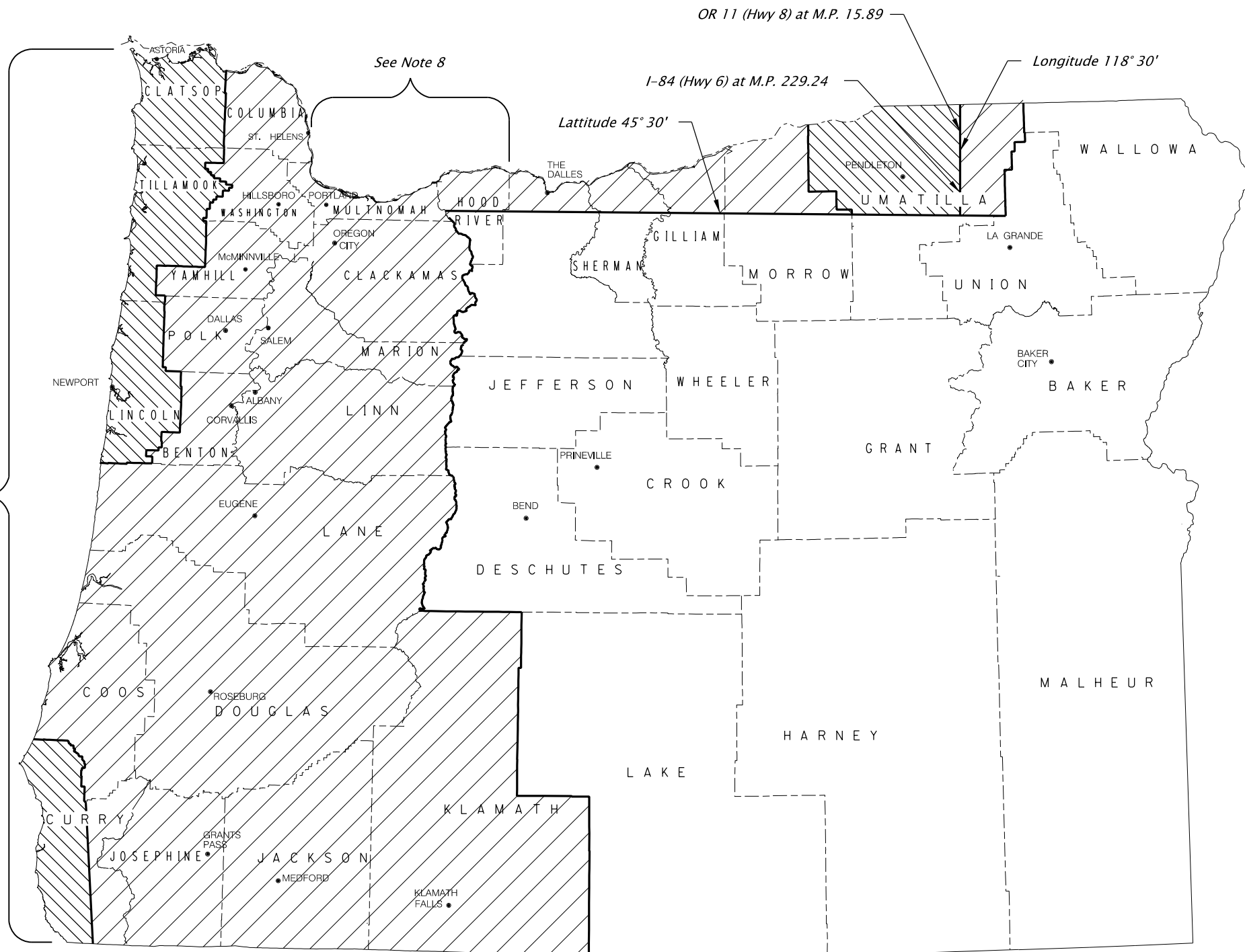
The location of unprotected breakaway supports with respect to the travel lane(s) and the roadside terrain and other geometric conditions over which the vehicle travels before impacting the support will affect the support's breakaway performance. Breakaway supports located in gore areas are particularly vulnerable to vehicle impacts. Breakaway supports located across tee intersections, at the end of lane drop or on the outside of horizontal curves are also likely to be struck. Locating breakaway supports in these areas should be avoided if possible. If the breakaway support must be located in these areas, locate them to produce an impact situation that is as forgiving as possible while assuring adequate recovery space beyond the support(s). Breakaway supports placed up on cut slopes generally result in a safer impact situation than for those placed down on fill slopes. The support placed on a cut slope will be lighter than a support placed on fill slope. The momentum of a vehicle traversing a cut slope will generally be less than that for a vehicle traversing a fill slope. A vehicle going up a cut slope is generally more stable and more easily redirected than a vehicle going down a fill slope. Placement of breakaway supports in or near ditches should be avoided. Breakaway supports should not be located near raised curbs or near the hinge point of the fill slope. Where possible, supports should be located behind established barriers. The guidelines contained herein should be used if possible. However, adjustments to the guidelines may be necessary because of right-of-way and/or other constraints. See TM200 requirements when signs are mounted on unprotected Breakaway Supports.

CALC. BOOK NO. _____		BASELINE REPORT DATE <u>06-JUL-2015</u>	
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications			
OREGON STANDARD DRAWINGS			
BREAKAWAY SIGN & LUMINAIRE SUPPORTS - SUPPORT LOCATION GUIDELINES			
2018			
DATE	REVISION DESCRIPTION		

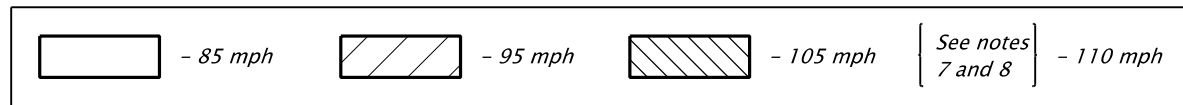
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

TM671.dgn 10-JUL-2017

TM671



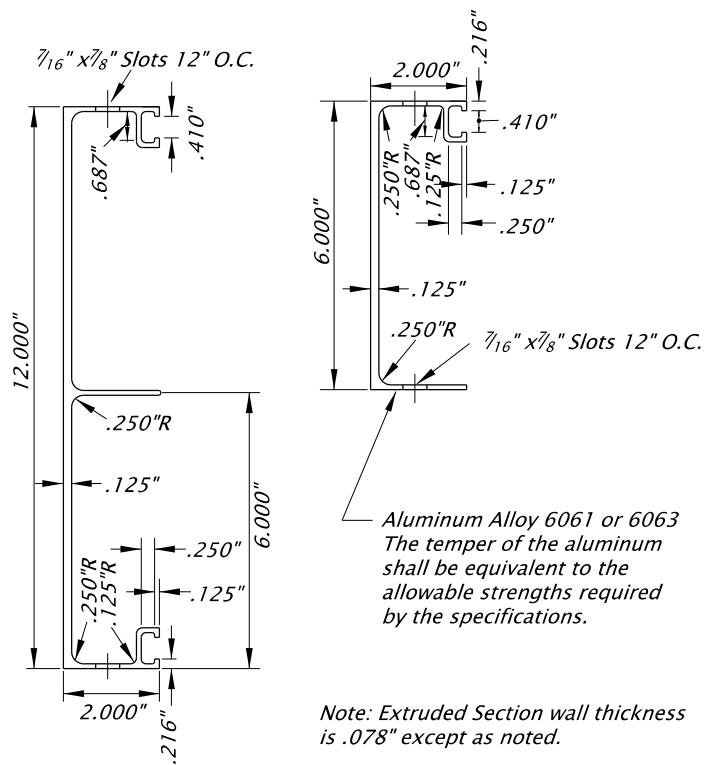
See Note 7



NOTES:

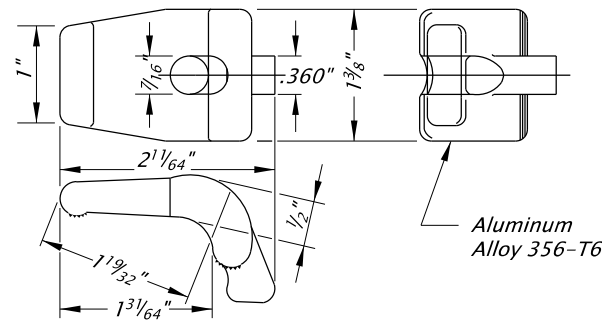
1. The wind velocity map as shown is adapted from AASHTO 2001 4th Edition - "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", Appendix C, Figure C-3 and Section 3, Figure 3-2. It uses the wind speed map shown in Figure 1609 of the 2007 Oregon Structural Code to account for locations in the State with special wind regions.
2. The wind velocities shown above are 3-Second Gust wind velocities.
3. The Exposure Category is C.
4. The mean recurrence interval is 50-Years.
5. Mountainous terrain, gorges, and ocean promontories are classified as special wind regions and shall be examined for unusual wind conditions.
6. The Interval Height (Kz) is 30 ft.
7. All areas with full exposure to ocean winds shall be designated 110 mph areas.
8. Areas in Multnomah and Hood River counties with full exposure to Columbia River Gorge winds shall be designated 110 mph areas.
9. Localities may have adopted wind speed higher than shown on this map. Those higher wind speed shall be used.

CALC. BOOK NO. _____	BASELINE REPORT DATE <u>06-JAN-2012</u>
<p><i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i></p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	OREGON STANDARD DRAWINGS
	3 SECOND GUST WIND SPEED MAP
	2018
DATE	REVISION DESCRIPTION

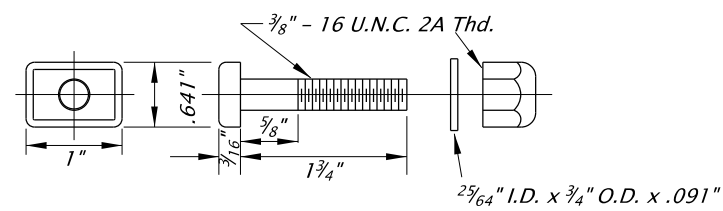


SIGN PANELS & DETAILS

Note: Extruded Section wall thickness is .078" except as noted.

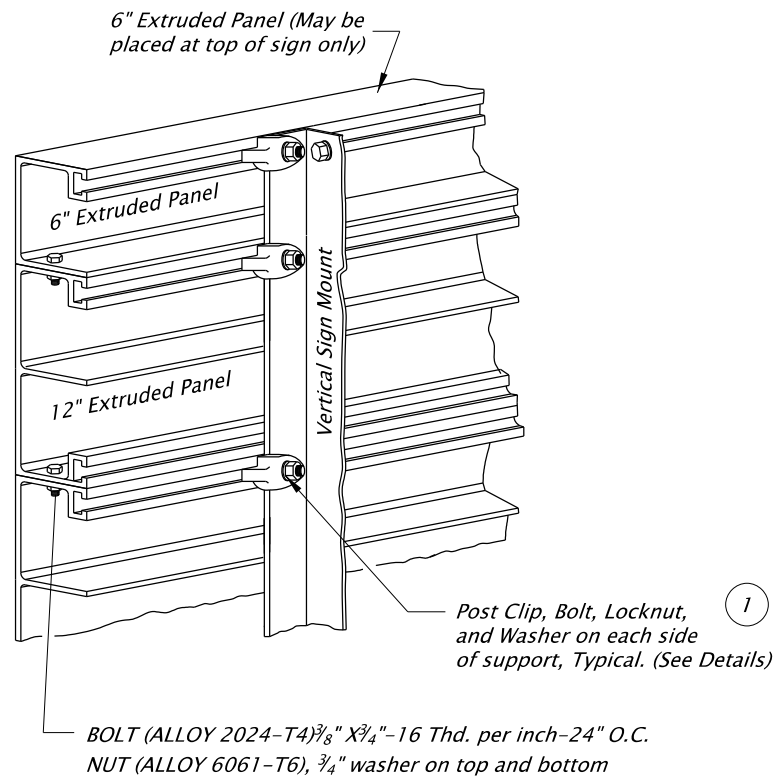


POST CLIP DETAIL



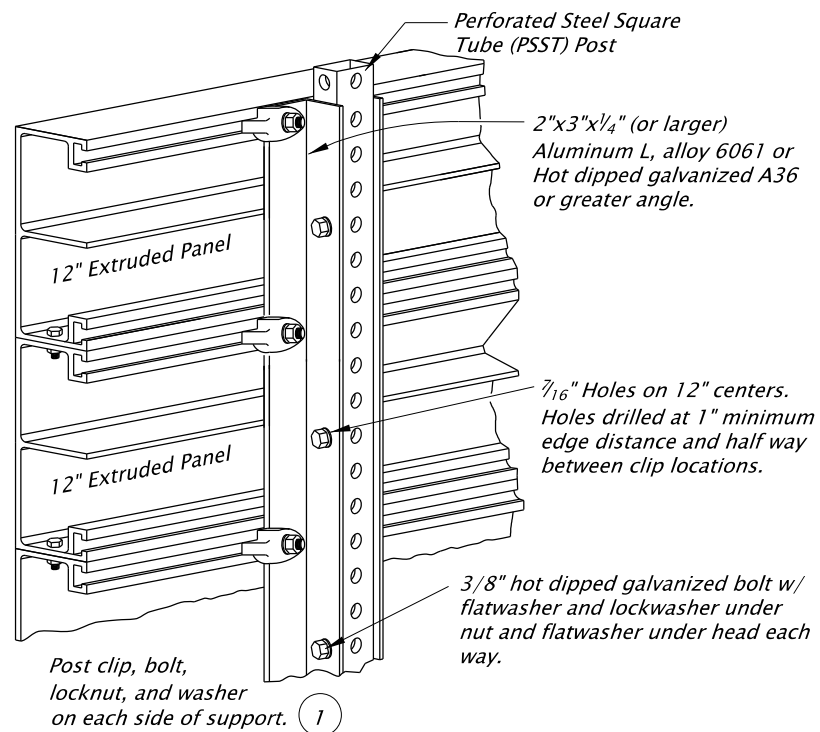
ALUMINUM ALLOYS; BOLT 2024-T4
LOCKNUT 6061-T6
WASHER (No alloy specified)

POST CLIP BOLT, NUT, & WASHER DETAIL

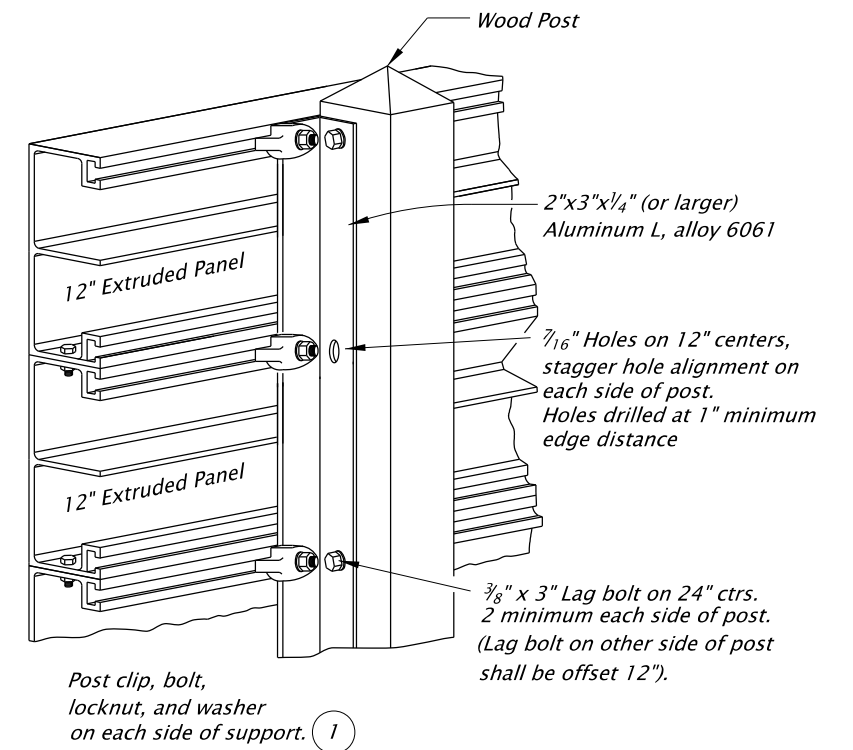


SIGN PANELS ON METAL STRUCTURES
No Scale

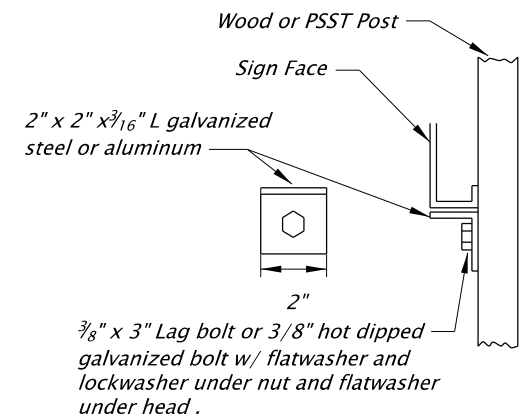
1 Note:
The locking feature of the nut shall be a nylon insert.



SIGN PANELS ON PERFORATED STEEL SQUARE TUBE (PSST) POSTS
No Scale



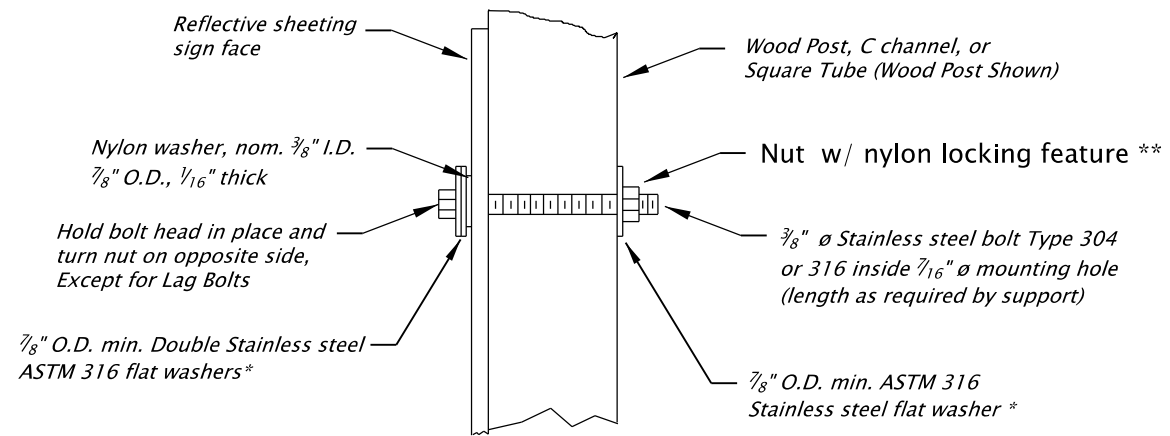
SIGN PANELS ON WOOD POSTS
No Scale



SIGN SUPPORT BRACKET DETAIL
1 Required per post

CALC. BOOK NO. _____	BASELINE REPORT DATE <u>06-JAN-2017</u>
<p>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	OREGON STANDARD DRAWINGS
	EXTRUDED ALUMINUM PANELS
	2018
DATE	REVISION DESCRIPTION

tm676.dgn 10-JUL-2017



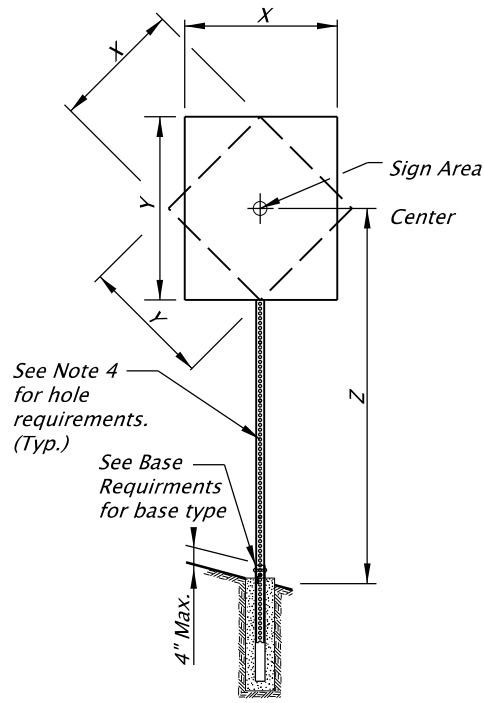
Note:
 1) When signs are placed on opposing sides of post, $\frac{3}{8}$ " x 3" lag bolts can be used instead of through bolt.
 2) Use nylon and stainless steel washers when signs are placed on both sides of post.
 3) Burr threads at junction with nut when locknuts are not used.
 4) Post bolts to extend beyond the tightened nuts within the limits of $\frac{1}{4}$ " to 1".

* Stainless steel bonded sealing washer with neoprene layer is an acceptable substitute
 ** Acceptable substitute for nylon locking nuts:
 ANCO PIN-LOC
 TRI-LOC® Top Lock Locknut

SIGN ATTACHMENT DETAIL

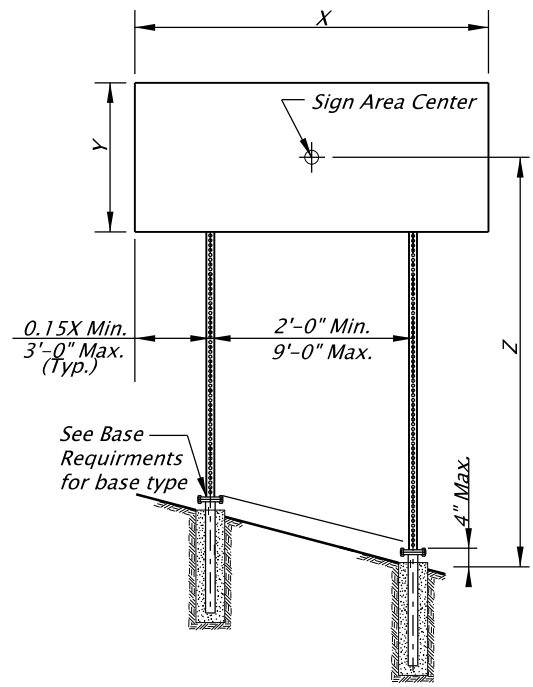
TM676

CALC. BOOK NO. _____	BASELINE REPORT DATE <u>06-JUL-2015</u>										
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications										
	OREGON STANDARD DRAWINGS										
	SIGN ATTACHMENTS										
	2018										
	<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	DATE	REVISION DESCRIPTION								
DATE	REVISION DESCRIPTION										



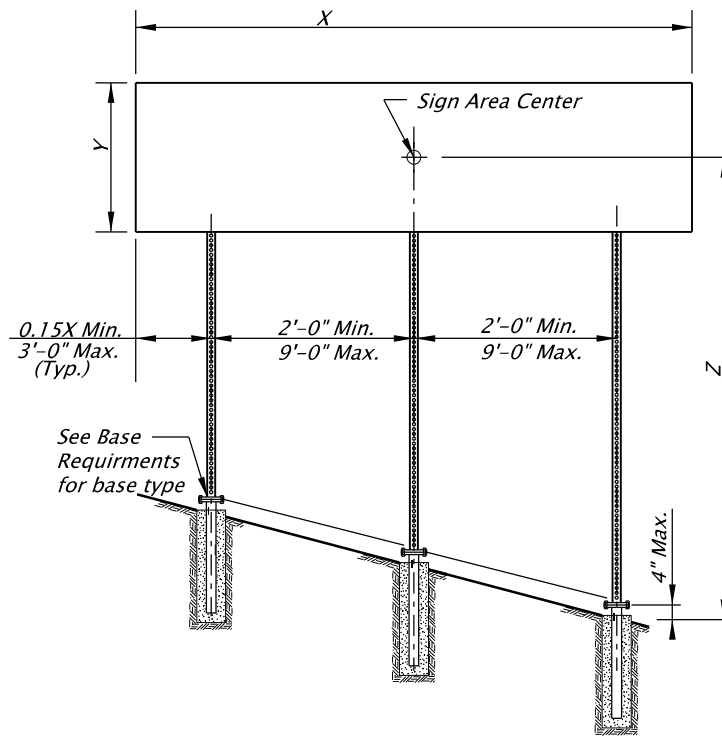
SINGLE POST ELEVATION

No scale



TWO POST ELEVATION

No scale



THREE POST ELEVATION

No scale

Square Tube Size	(X * Y * Z) in ft ³ - Maximum								
	3 Second Gust Wind Speed (TM671)								
	85 MPH			95 MPH			105 or 110 MPH		
	Number of Posts			Number of Posts			Number of Posts		
2"-12 ga.	79	158	237	63	126	189	57	114	171
2 1/2"-12 ga.	136	272	408	109	218	327	98	196	294
2 1/2"-10 ga.	165	330	495	132	264	396	119	238	357
2 1/4" & 2 1/2"-12 ga.*	231	462	693	185	370	555	167	334	501

PERMANENT PERFORATED STEEL SQUARE TUBE TABLE

Square Tube Size	(X * Y * Z) in ft ³ - Maximum								
	3 Second Gust Wind Speed (TM671)								
	85 MPH			95 MPH			105 or 110 MPH		
	Number of Posts			Number of Posts			Number of Posts		
2"-12 ga.	125	250	375	100	200	300	90	180	270
2 1/2"-12 ga.	215	430	645	172	344	516	155	310	465
2 1/2"-10 ga.	261	522	783	209	418	627	189	378	567
2 1/4" & 2 1/2"-12 ga.*	364	728	1092	292	584	876	263	526	789

TEMPORARY PERFORATED STEEL SQUARE TUBE TABLE

* - See 2 1/4" & 2 1/2" - 12 ga. detail.

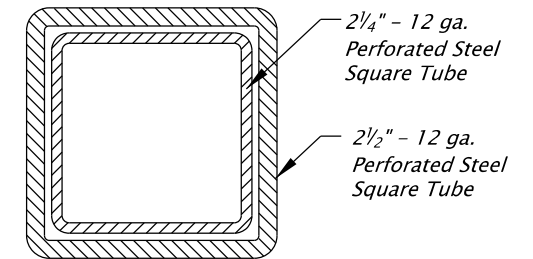
Square Tube Size	Number of Posts		
	1	2	3
2"-12 ga.	Anchor	Anchor	N/A
2 1/2"-12 ga.	Anchor	Slip	Slip
2 1/2"-10 ga.	Slip	Slip	Slip
2 1/4" & 2 1/2"-12 ga.*	Slip	Slip	Slip

1. Anchor - See Drawing TM687 for PSST anchor foundation details.
2. Slip - See Drawing TM688 for PSST slip base foundation details.
3. N/A - Do not use this option.

BASE REQUIREMENTS

GENERAL NOTES:

1. Perforated Steel Square Supports are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 4th Edition, 2001, 2002, 2003, and 2006 interim revisions.
2. The design basic wind speed (3 second gust) shall be according to the wind map shown on TM671.
3. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
4. Use 7/16" diameter holes at 1" spacing on each of the 4 sides.
5. Steel post shall have a minimum yield stress of 50 ksi.
6. Steel shall be galvanized according to ASTM A653 with coating designation G90.
7. General design parameters are Kz = 0.87, Cd (sign) = 1.20, and G = 1.14.
8. Permanent signing uses an Ir = 0.71 for a recurrence interval of 10 years.
9. Temporary signing uses an Ir = 0.45 for a recurrence interval of 1.5 years.
10. The sign width to sign height or sign height to sign width ratio shall not exceed 5.0.
11. For horizontal and vertical clearances of permanent signs refer to TM200 and of temporary signs refer to TM822.
12. Posts protected by barrier or guardrail do not require slip bases.



2 1/4" - 12 ga. PSST to extend entire length inside of the 2 1/2" - 12 ga. PSST.

2 1/4" & 2 1/2" - 12 GA. DETAIL

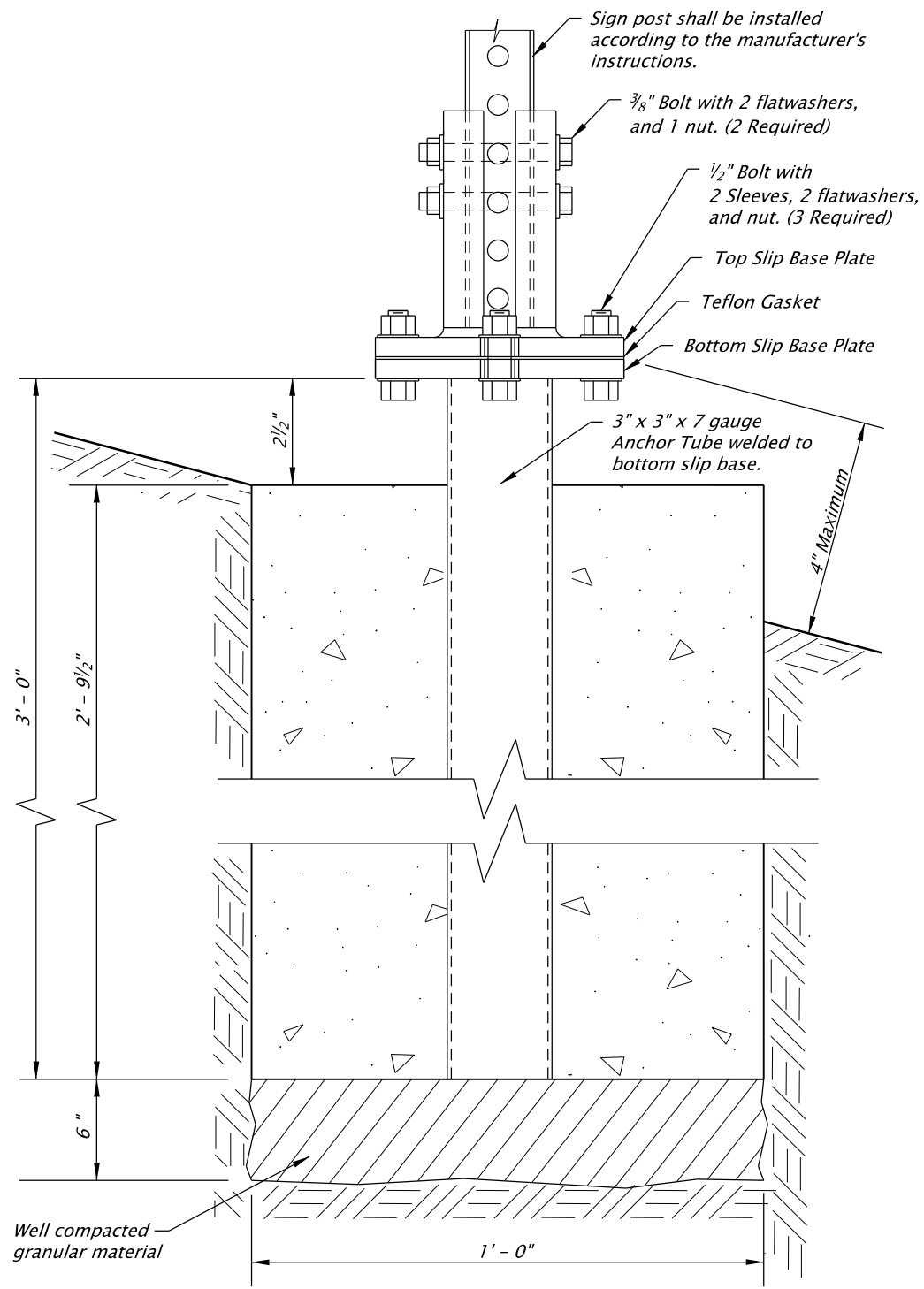
No scale

Accompanied by dwgs. TM200, TM671, TM687, TM688, TM689, TM822

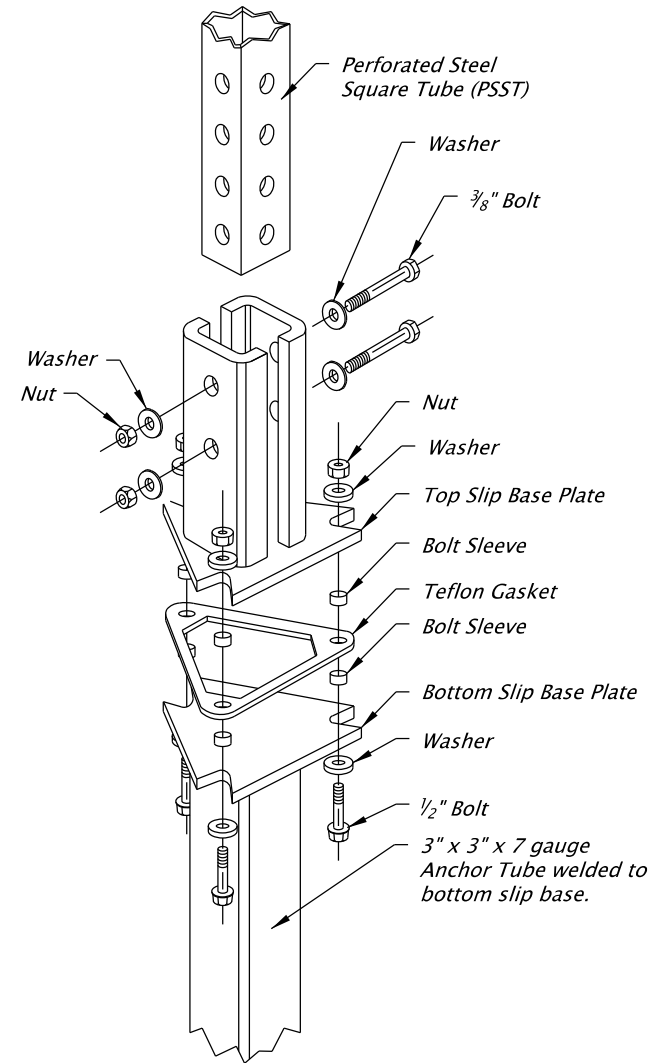
CALC. BOOK NO. <u>5752</u>	BASELINE REPORT DATE <u>10-JUL-2017</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
PERFORATED STEEL SQUARE TUBE (PSST) SIGN SUPPORT INSTALLATION	
2018	
DATE	REVISION DESCRIPTION
07/17	Changed G140 to G90.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

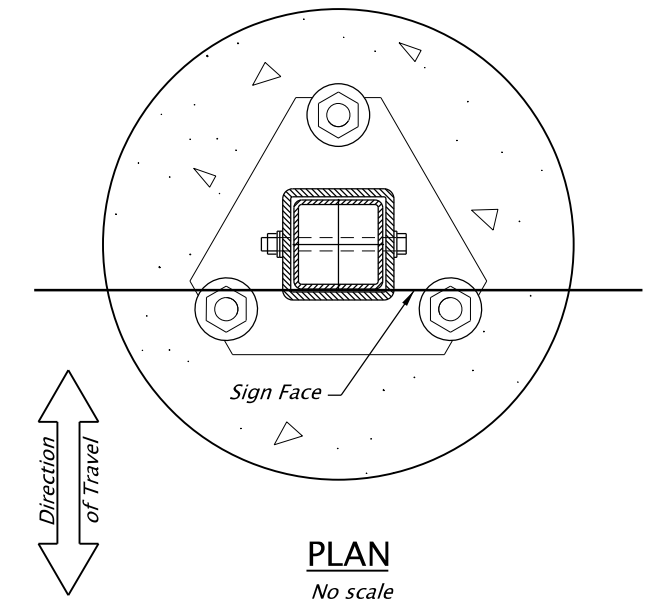
tm688.dgn 10-JUL-2017



SLIP BASE ELEVATION
No scale



SLIP BASE EXPLODED VIEW
No scale



PLAN
No scale

General Notes:

1. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
2. Slip base steel shall be hot dipped galvanized or approved equal.
3. Footing concrete shall be Commercial Grade Concrete ($f_c = 3000$ psi) per Specification 00440. The CGC mixture may be accepted at the site of placement according to 00440.14.
4. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
5. All slip bases shall be pre-assembled by the manufacturer and shall be installed according to the manufacturer's instructions.
6. Use slip bases listed on the ODOT Qualified products list or submit crash testing data, installation instructions, and unstamped working drawings according to 00150.35.
7. Slip base details shown are not for a specific manufacturer and are only shown to convey general pieces of a slip base system. Specific slip base material will be according to the manufacturer's documentation.

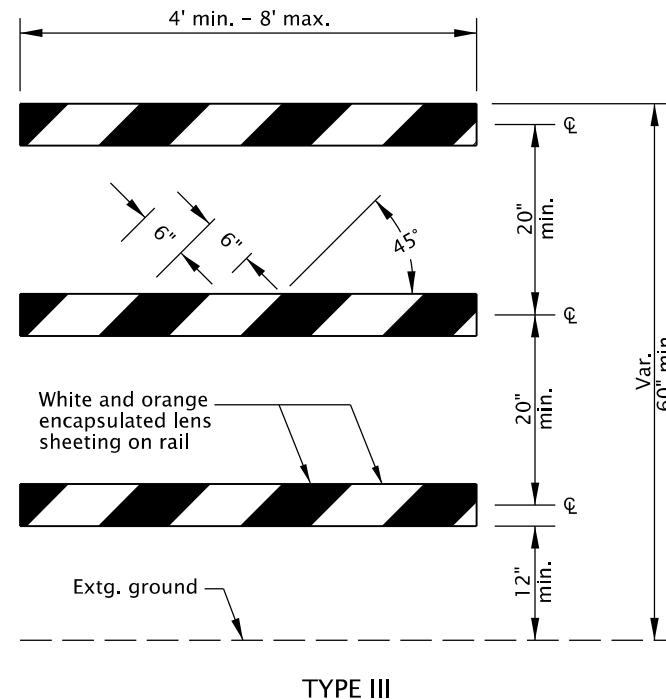
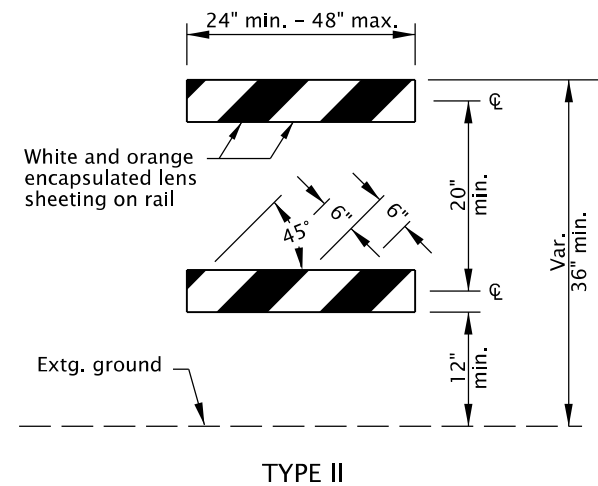
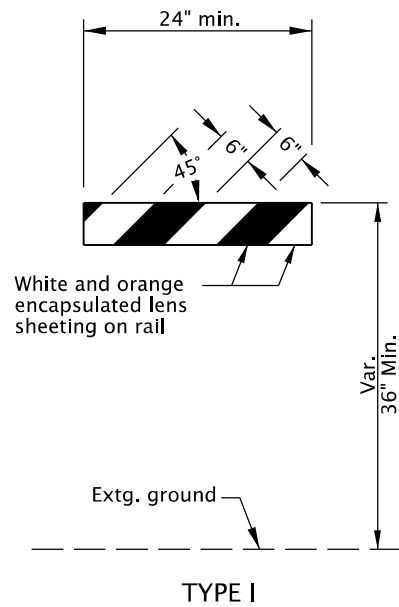
Accompanied by dwgs. TM681, TM687

CALC. BOOK NO. <u>5752</u>	BASILINE REPORT DATE <u>06-JAN-2012</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS	
PERFORATED STEEL SQUARE TUBE (PSST) SLIP BASE FOUNDATION	
2018	
DATE	REVISION DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

889WL

tm820.dgn 01-JAN-2019



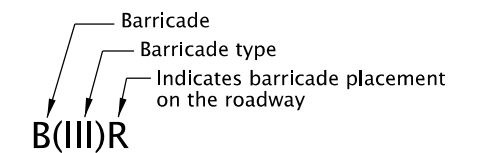
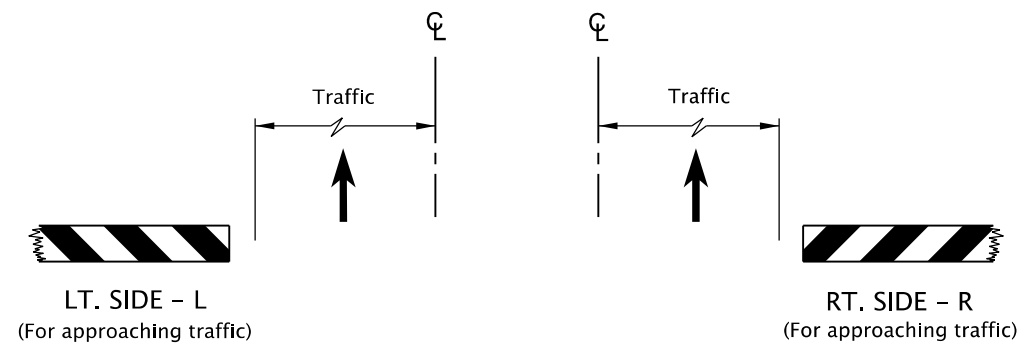
BARRICADE RAIL LAYOUT

GENERAL NOTES FOR ALL DETAILS:

- Sandbags (approximately 25 lb sack filled with sand) may be placed on lower frame to provide additional ballast.
- Ballast shall not extend above bottom rail or be suspended from barricade.
- For rails less than 36" long, 4" wide stripes shall be used.
- Rails must be 8" min. to 12" max. in height.
- Use barricades from ODOT Qualified Products List (QPL).
- Use 4' Type III barricades where horizontal space is limited.
- Do not block bike lanes or shoulders unless the facility is properly closed and signed.
- Do not place barricades in sidewalks unless sidewalk is closed and a temporary pedestrian accessible route (TPAR) is signed according to the TCP. See Drg. No. TM844.

NOTES:

- Markings for barricade rails shall slope downward at an angle of 45° in the direction traffic is to pass.
- Where a barricade extends entirely across a roadway, it is desirable that the stripes slope downward in the direction toward which traffic must turn in detouring.
- Where both right and left turns are provided for, slope the chevron striping downward in both directions from the center of the barricade.
- For full roadway closures, the C or LR barricade may be used. Extend barricades completely across roadway unless access is required for local road users.



BARRICADE NOTATION

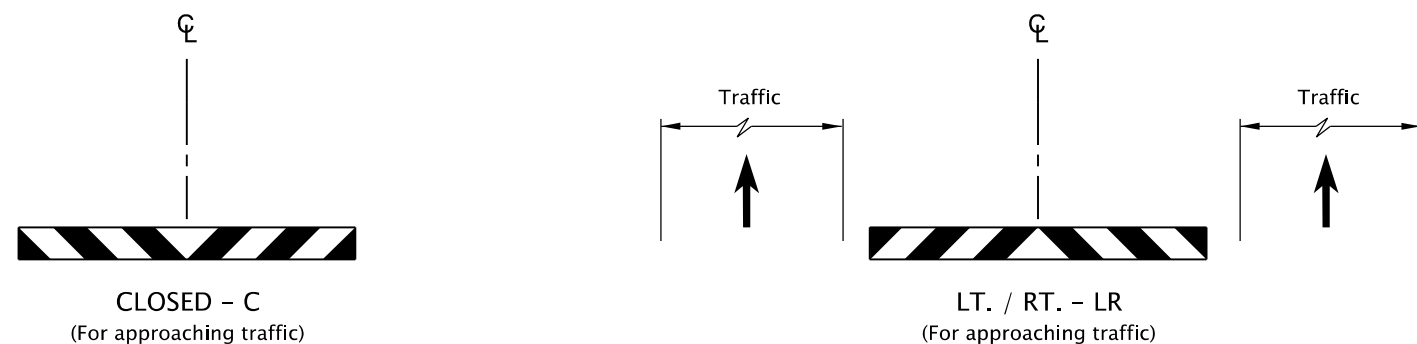


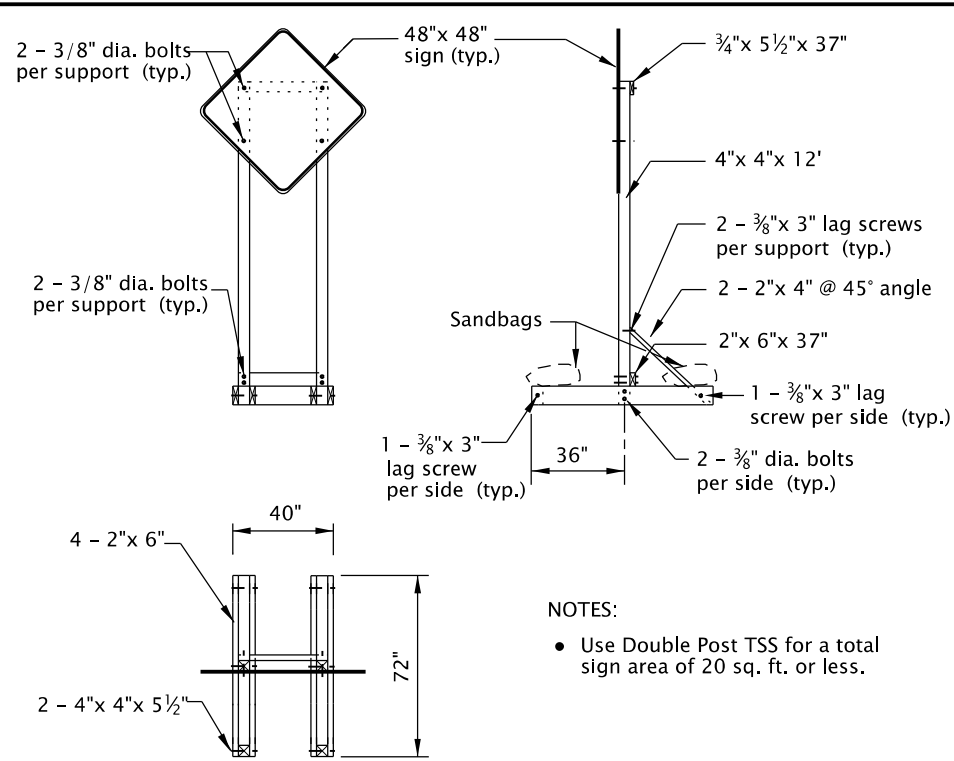
DIAGRAM FOR BARRICADE PLACEMENT AND SLOPE MARKING

CALC. BOOK NO. _____ N/A _____		BASELINE REPORT DATE _____ 01-JAN-2019 _____	
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications			
OREGON STANDARD DRAWINGS			
TEMPORARY BARRICADES			
2018			
DATE	REVISION	DESCRIPTION	
01-2019	REVISED NOTES		

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

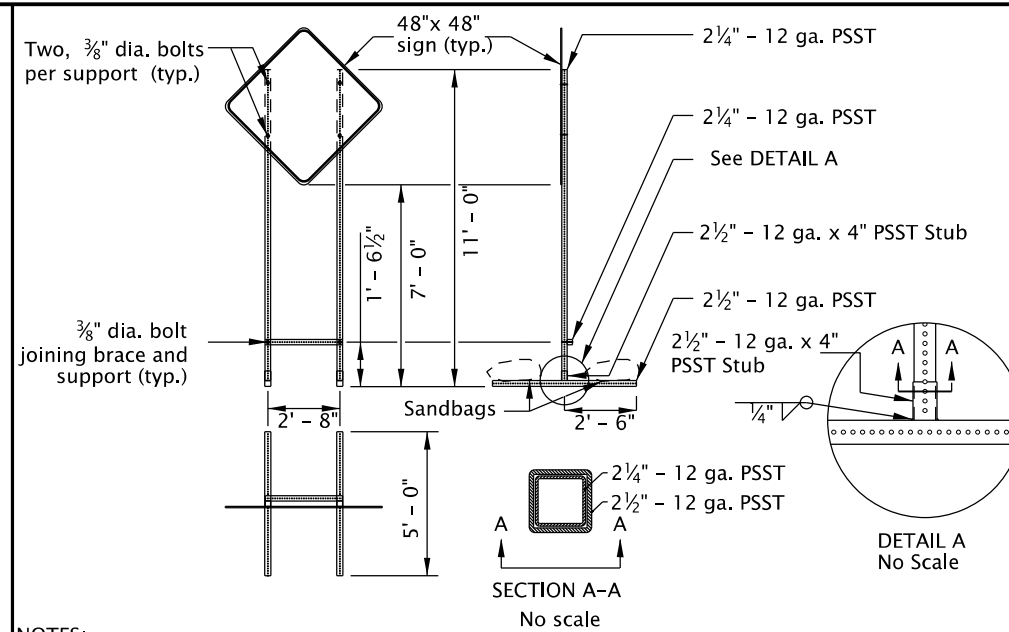
TM820

tm821.dgn 01-JAN-2020



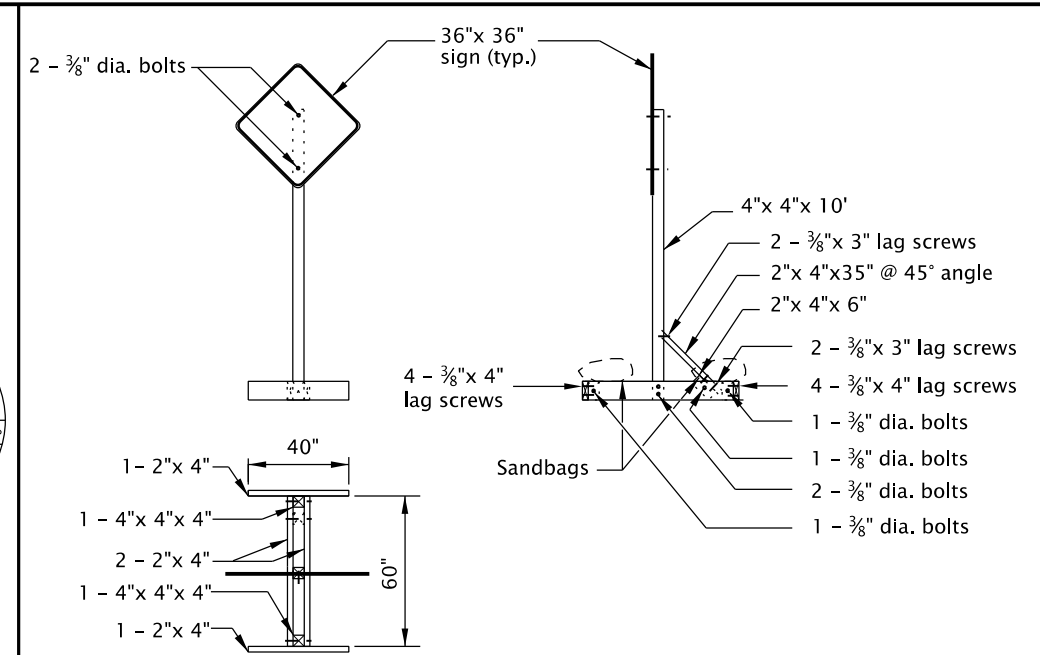
DOUBLE POST
TEMPORARY SIGN SUPPORT (TSS)

- NOTES:
- Use Double Post TSS for a total sign area of 20 sq. ft. or less.



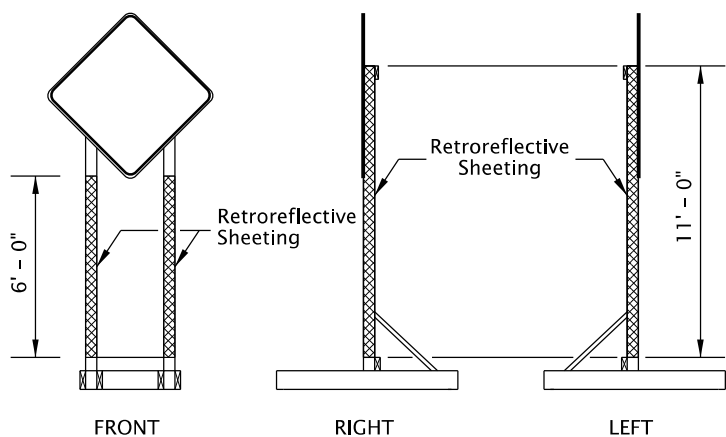
PERFORATED STEEL SQUARE TUBE (PSST)
TEMPORARY SIGN SUPPORT (TSS)

- NOTES:
- Use PSST TSS's for a total sign area of 16 sq. ft. or less.
 - All members shall have a minimum yield stress of 50 ksi.
 - Galvanize steel according to ASTM A653 with coating designation G90. Remove Galvanizing from steel before welding. Repair Galvanizing according to ASTM A780.
 - Use A325 Bolts or equivalent.
 - 2 1/4" - 12 ga. PSST to extend entire length inside of the 2 1/2" - 12 ga. x 4" PSST Stub.
 - Do not use bolt to secure 2 1/4" PSST inside of the 2 1/2" - 12 ga. x 4" PSST Stub.
 - Weld steel according to AWS D.1.1.

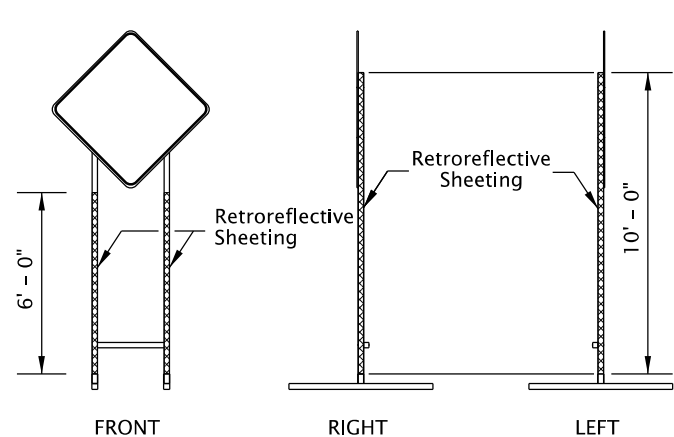


SINGLE POST
TEMPORARY SIGN SUPPORT (TSS)

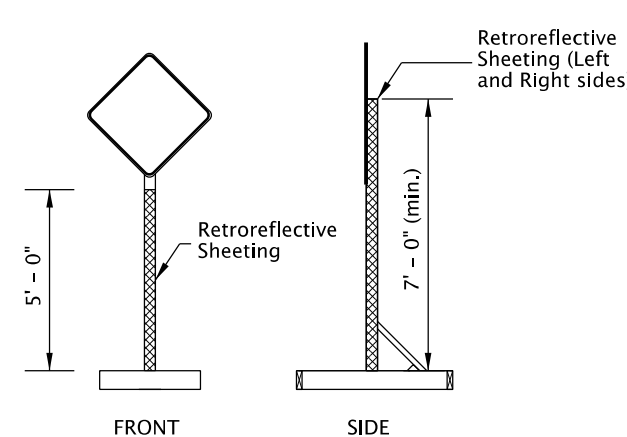
- NOTES:
- Use Single Post TSS for a total sign area of 12 sq. ft. or less.
 - Use Single Post TSS for mounting "Business Access" (CG20-11) signs. Do not mount signs on Type II or III Barricades.



DOUBLE POST
TEMPORARY SIGN SUPPORT (TSS)



PERFORATED STEEL SQUARE TUBE (PSST)
TEMPORARY SIGN SUPPORT (TSS)



SINGLE POST
TEMPORARY SIGN SUPPORT (TSS)

Retroreflective
Sheeting (Left
and Right sides)

TEMPORARY SIGN SUPPORT GENERAL NOTES:

- DO NOT TIP OVER TSS AT ANY TIME.
- Do not locate TSS's in locations that block pedestrian/bicycle traffic.
- For wooden TSS's, use either Douglas Fir or Hem Fir, which is surfaced four sides (S4S) and free of heart center (FOHC).
- See "Temporary Sign Placement" detail on TM822 for sign installation heights.
- Do not place or stack ballast more than 24" above the ground.
- When sign is inconsistent with current work zone conditions, cover sign; or turn sign 90 degrees away from approaching traffic. Remove TSS from roadway when signing is not needed for more than 3 days.
- Place a minimum of 50 lbs of sandbags on each of the four TSS supports legs. (25 lb. max per bag) (min. 100 lbs per side of each TSS).
- See Drg. No. TM204 for flag board mounting detail.

- NOTES:
- Apply fluorescent orange, ANSI Type VIII or IX retroreflective sheeting to TSS posts, as shown, for all temporary signs, except "STOP" and "DO NOT ENTER". For "STOP" and "DO NOT ENTER" signs, used red ANSI Type III or IV retroreflective sheeting on the TSS posts.
 - Apply sign post retroreflectivity to each TSS post facing front; and to the left and right sides of the TSS, as shown. Use 3" wide sheeting for wood post TSS's. Use 2" wide sheeting for PSST TSS's.
 - Sheeting may be applied directly to post material; or applied to a rigid, lightweight substrate, then securely attached to the posts.

SIGN POST REFLECTIVE SHEETING PLACEMENT

CALC. BOOK NO. _____ N/A _____

BASELINE REPORT DATE _____ 01-JAN-2020 _____

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS
TEMPORARY SIGN SUPPORTS

2018

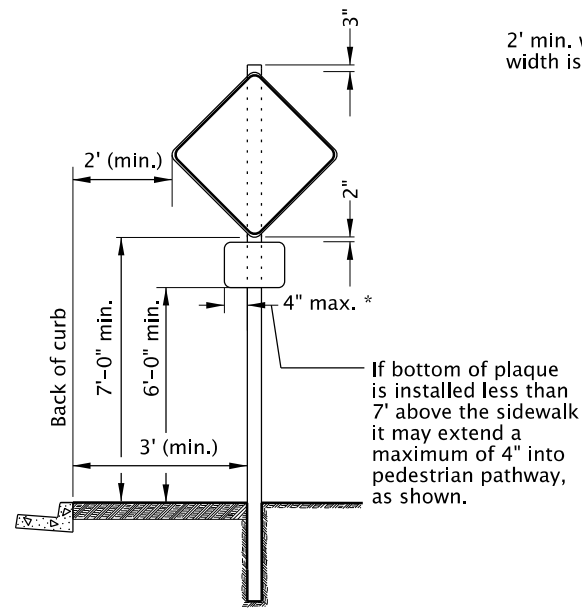
DATE	REVISION	DESCRIPTION
01-2019	REVIS	REVISED NOTES
01-2020	REVIS	REVISED NOTES

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

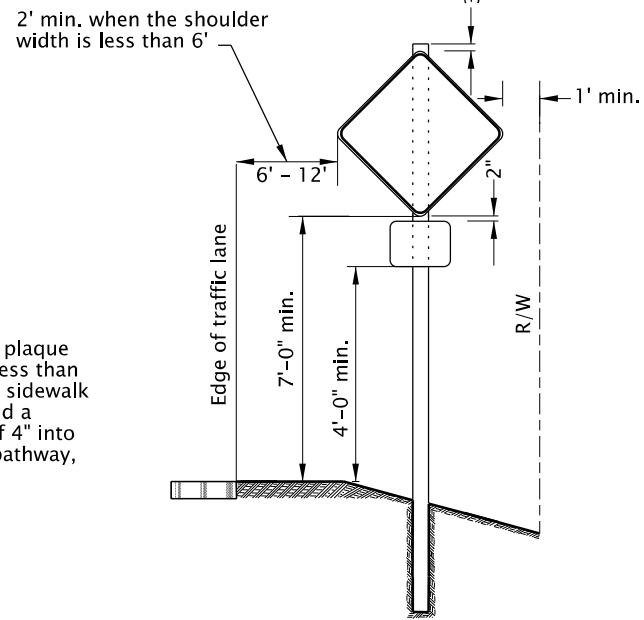
TM821

NOTES:

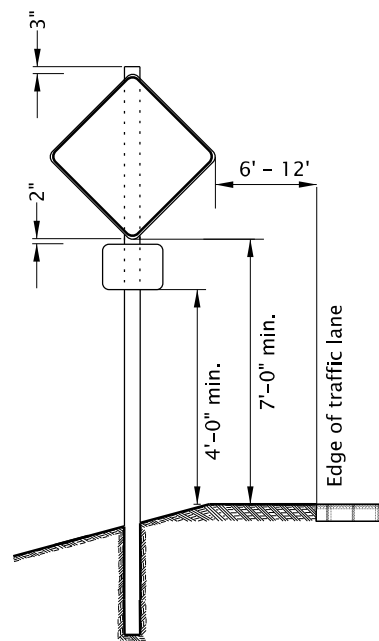
- Do not block bicycle lanes, sidewalks, or TPAR's with sign supports. Maintain minimum widths for these facilities according to TCP Design Manual, MUTCD, ADA, or as directed.
- To be accompanied by Drg. Nos. TM670, TM671, TM687, TM688 & TM689.



URBAN AREAS WITH CURB/SIDEWALK

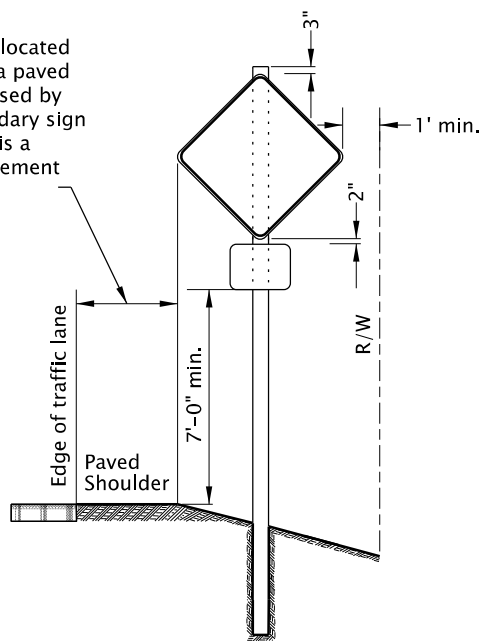


RURAL AREAS



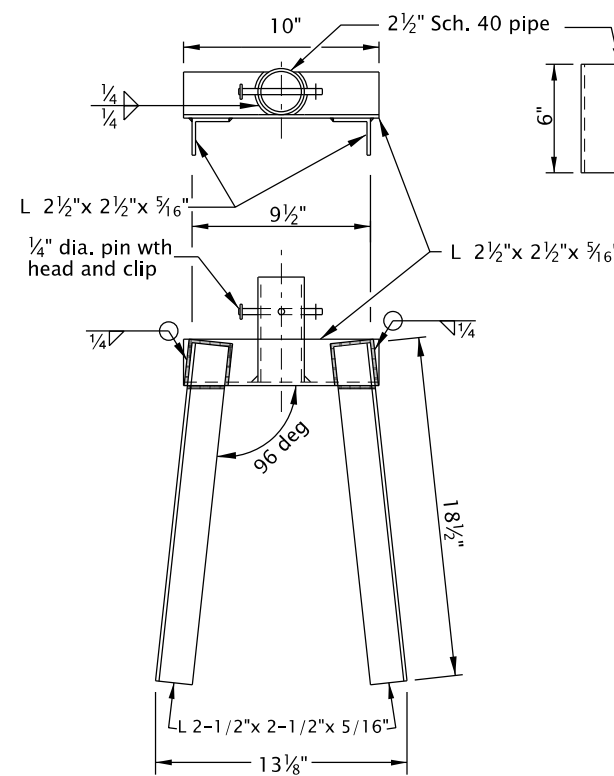
DIVIDED HIGHWAY/FREEWAY MEDIANS
NO CURB/SIDEWALK

Where temporary signs are located adjacent to or intrude into a paved shoulder or other surface used by bicycle traffic, install secondary sign (plaque) so bottom of sign is a minimum of 7'-0" above pavement surface, as shown.



RURAL OR URBAN AREAS - CURB OR NO CURB
BICYCLES ON SHOULDER

TEMPORARY SIGN PLACEMENT



NOTES:

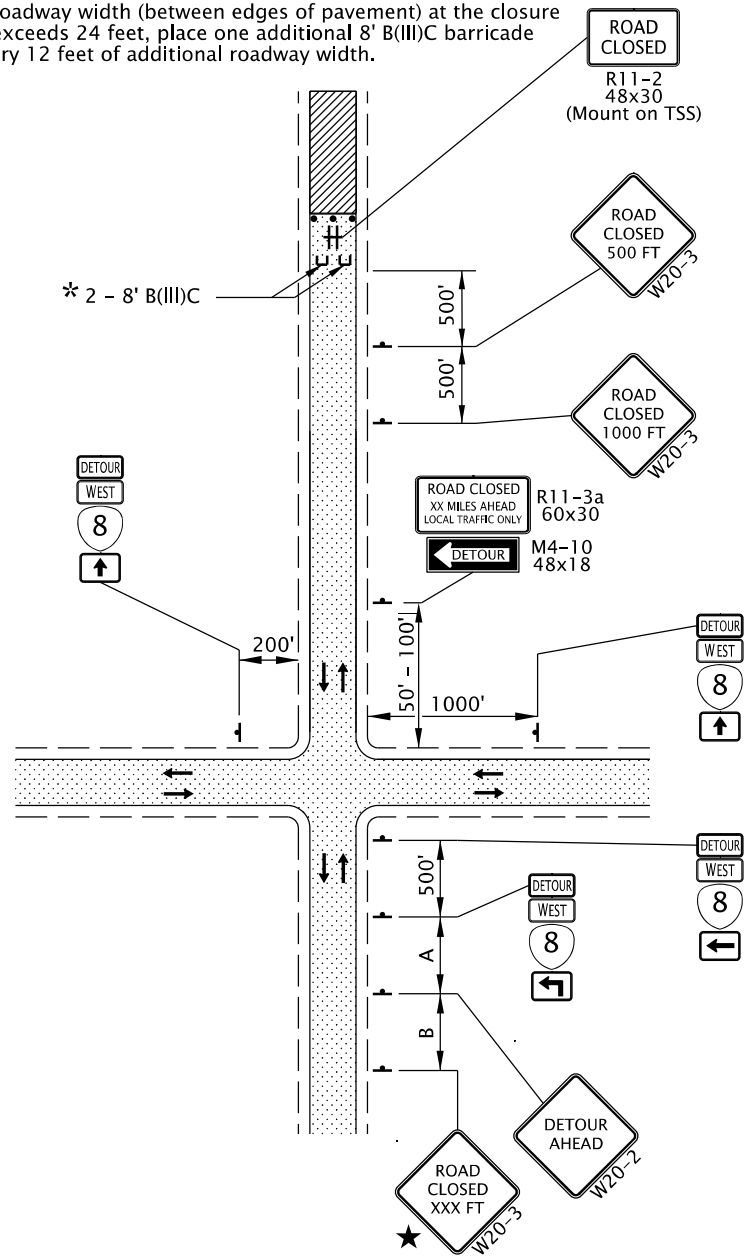
- Drill additional holes so sign can be rotated 90 degrees and pinned when not in use.
- All structural steel shall conform to ASTM A36.
- Support fits both 32" and 42" tall "F" barrier.
- Use for supporting a maximum 12 sq. ft. of total sign area.
- Place support at connection between two concrete barrier sections.
- Weld steel according to American Welding Society (AWS) D.1.1.
- Do not use clipped signs.
- Follow manufacturer recommendation when installing signs on barrier other than concrete.

CONCRETE BARRIER SIGN SUPPORT

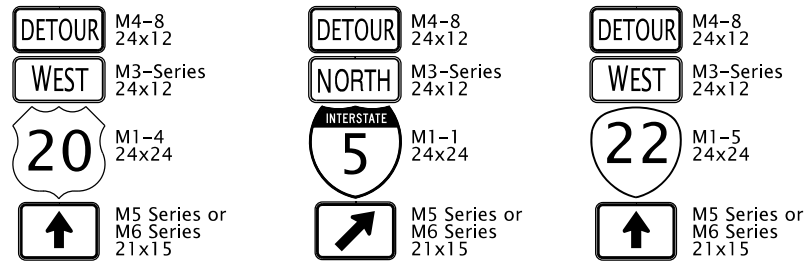
<p>CALC. BOOK NO. _____ N/A _____</p> <p><i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i></p>	<p>BASELINE REPORT DATE _____ 01-JAN-2020 _____</p> <p>NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications</p> <p>OREGON STANDARD DRAWINGS</p> <p>TEMPORARY SIGN SUPPORTS</p> <p>2018</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>01-2018</td> <td>REVISED DRAWING</td> </tr> <tr> <td>01-2019</td> <td>REVISED NOTES</td> </tr> <tr> <td>01-2020</td> <td>REVISED NOTES</td> </tr> </tbody> </table>	DATE	REVISION DESCRIPTION	01-2018	REVISED DRAWING	01-2019	REVISED NOTES	01-2020	REVISED NOTES
DATE	REVISION DESCRIPTION								
01-2018	REVISED DRAWING								
01-2019	REVISED NOTES								
01-2020	REVISED NOTES								

NOTES:
 If closure point is less than 1500 ft. from nearest intersection, use a "ROAD CLOSED TO THRU TRAFFIC" (R11-4) sign in place of the "ROAD CLOSED XX MILES AHEAD" sign.

* If the roadway width (between edges of pavement) at the closure point exceeds 24 feet, place one additional 8' B(III)C barricade for every 12 feet of additional roadway width.

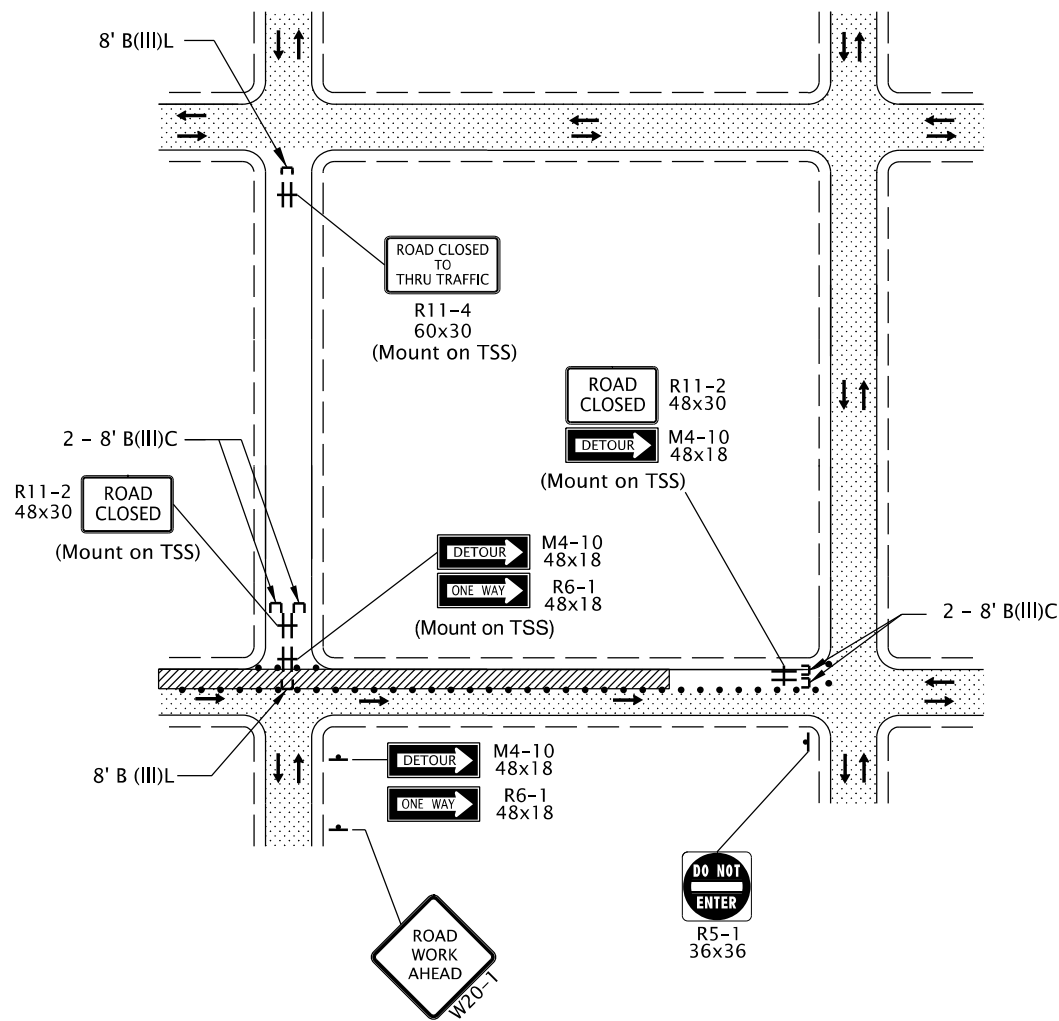


TYPICAL ROAD CLOSURE WITH DETOUR



TYPICAL TRAILBLAZER ASSEMBLY

NOTE:
 When detour routes overlap, each Route Shield will include a separate cardinal direction, detour, and directional arrow auxiliary sign assembly.



TYPICAL PARTIAL ROAD CLOSURE

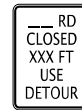
GENERAL NOTES FOR ALL DETAILS:

★ A "Street Name" rider may be used to enhance Road Closure signing; or provide a project specific design; or, as shown in the traffic control plan.



##x18 Rider
 Rider width to be determined by width of street name.

OR



48 x 60 (nom.)
 Project Specific Design

OR



48 x 60 (nom.)
 Project Specific Design

• Use a minimum of two Type III barricades for a road closure. For roads $\geq 36'$ wide between curbs or edge of pavement, use a minimum of three Type III barricades for the closure point.

• For full road closures, the C or LR barricade may be used.

• Place additional signing as directed.

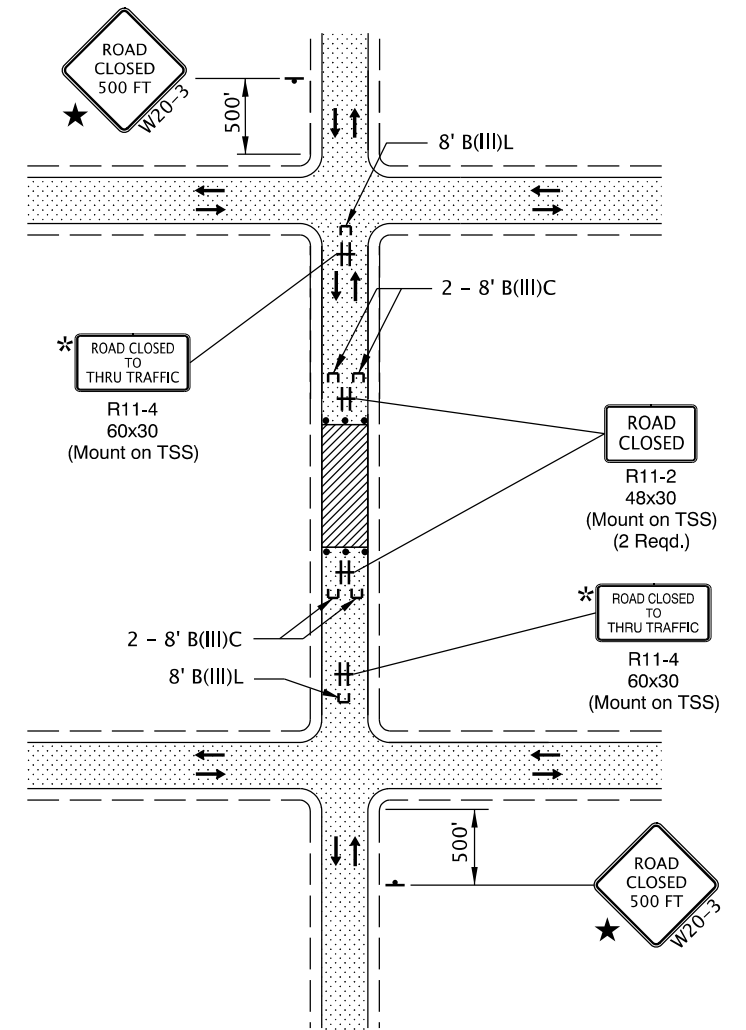
• To determine sign spacing A, B, & C, use the "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. TM800.

• To be accompanied by Drg. Nos. TM820 & TM821.

••••• 28" Tubular Markers
 See TCD Spacing Table on TM800 for max. spacing.

..... UNDER TRAFFIC

////// UNDER CONSTRUCTION



NOTE:
 * If accesses exist between intersection and point of closure, install "ROAD CLOSED TO THRU TRAFFIC" sign as shown.

TYPICAL ROAD CLOSURE

CALC. BOOK NO. _N/A_

BASELINE REPORT DATE _01-JAN-2019_

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

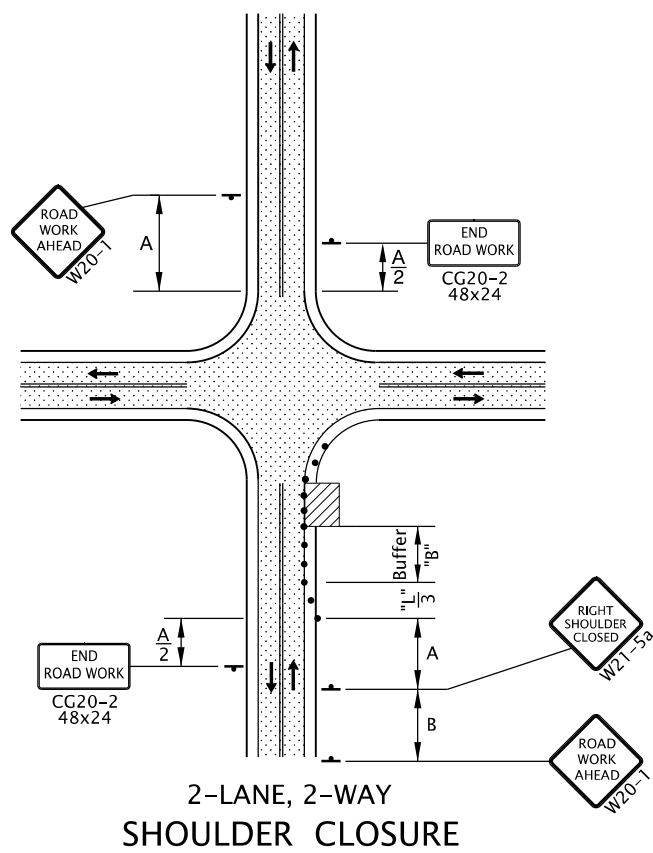
OREGON STANDARD DRAWINGS

CLOSURE DETAILS

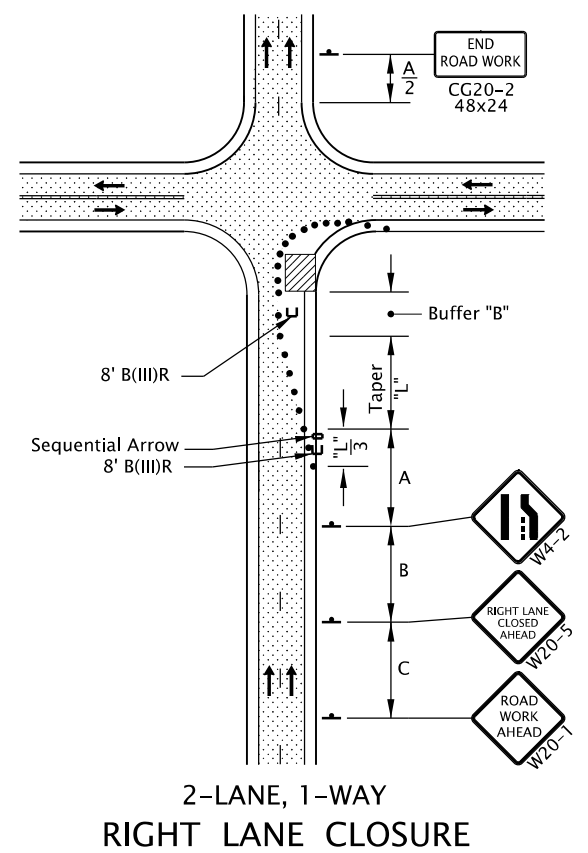
2018

DATE	REVISION	DESCRIPTION
01-2018	REVISED DRAWING	

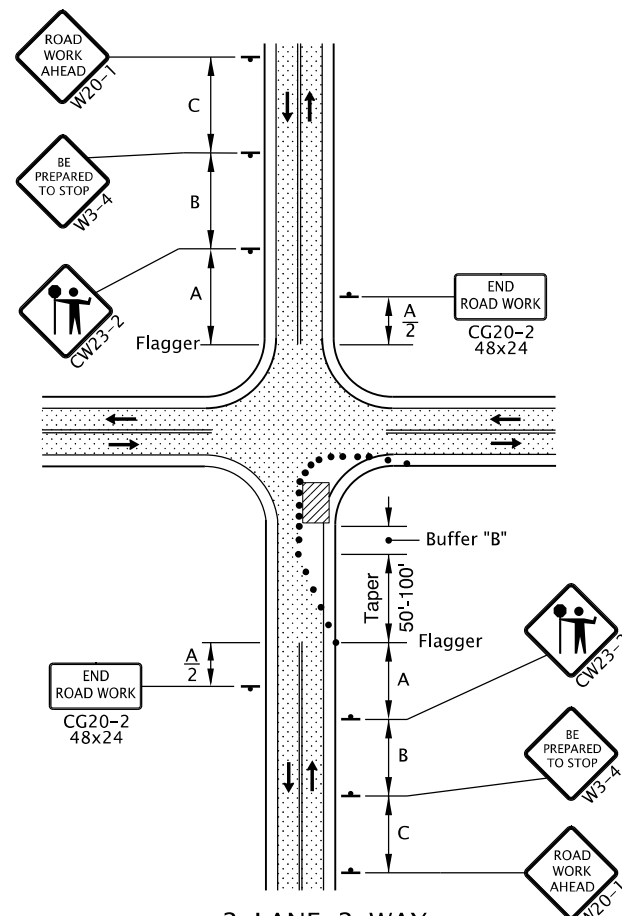
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.



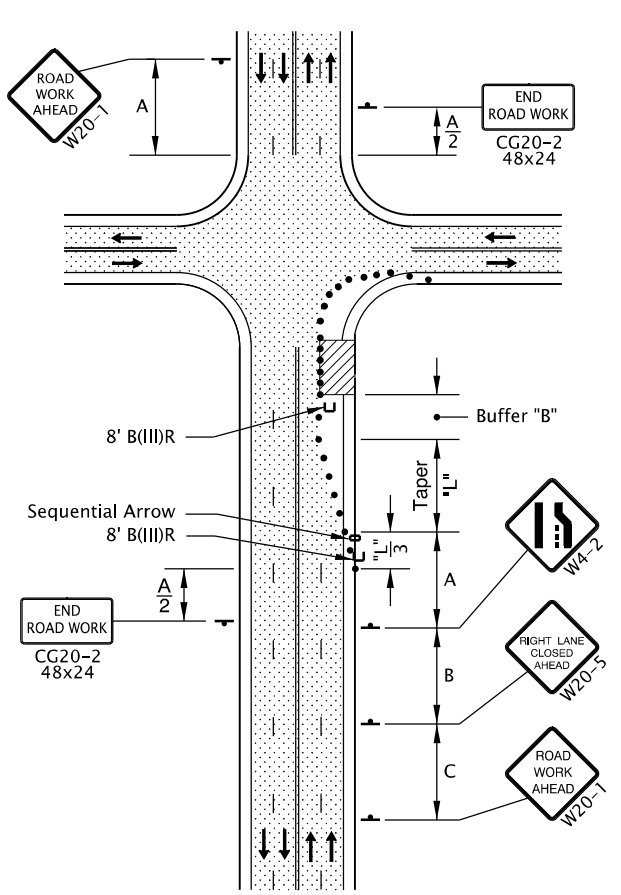
2-LANE, 2-WAY SHOULDER CLOSURE



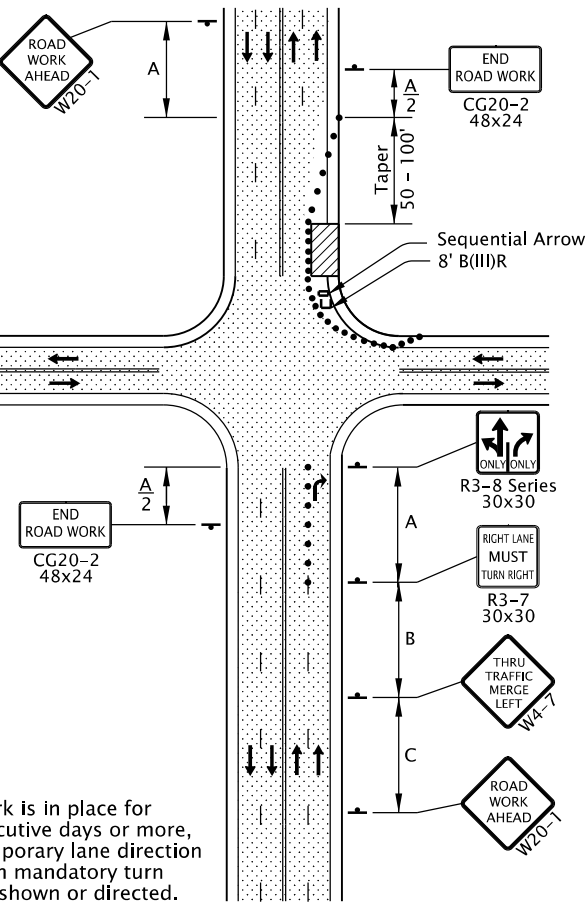
2-LANE, 1-WAY RIGHT LANE CLOSURE



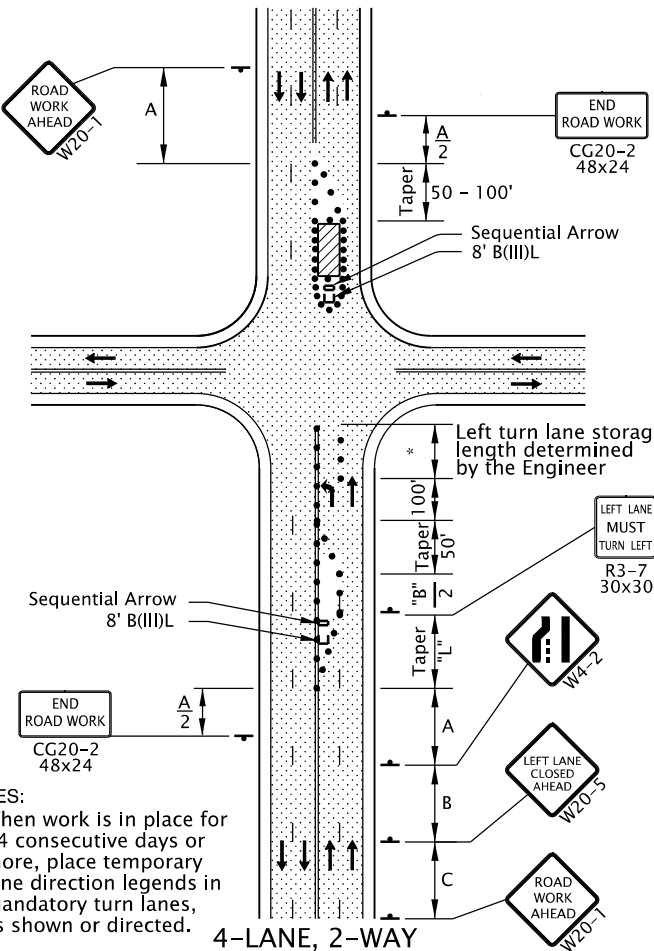
2-LANE, 2-WAY ONE LANE CLOSURE



4-LANE, 2-WAY RIGHT LANE CLOSURE, NEAR SIDE



4-LANE, 2-WAY RIGHT LANE CLOSURE, FAR SIDE



4-LANE, 2-WAY LEFT LANE CLOSURE, FAR SIDE

NOTES:
 • When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

NOTES:
 • When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

GENERAL NOTES FOR ALL DETAILS:

- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection.
- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" on Drg. TM800.
- For left lane or shoulder work, place TCD to close left lane or shoulder. Use "LEFT LANE CLOSED AHEAD" (W20-5) sign, "LEFT LANE ENDS" (W4-2L) symbol sign, or "LEFT SHOULDER CLOSED" (W21-5a) sign, where applicable.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. TM800.
- When a through road intersects within the work zone, place a "ROAD WORK AHEAD" (W20-1) sign in advance of the intersection at sign spacing A.
- Use plastic drums in lane closure tapers when the posted speed is 45 mph or greater.
- Where shoulder width is limited, Sequential Arrow may be placed within the lane closure taper.
- Place channellizing devices around intersection radii and construction areas at 10' spacing.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- To be accompanied by Drg. Nos. TM820, TM821 & TM840.
- 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacings.
- 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacings.

CALC. BOOK NO. _ _ _ _ _ N/A _ _ _ _ _

BASELINE REPORT DATE _ _ _ _ _ 01-JUL-2019 _ _ _ _ _

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

INTERSECTION WORK ZONE DETAILS

2018

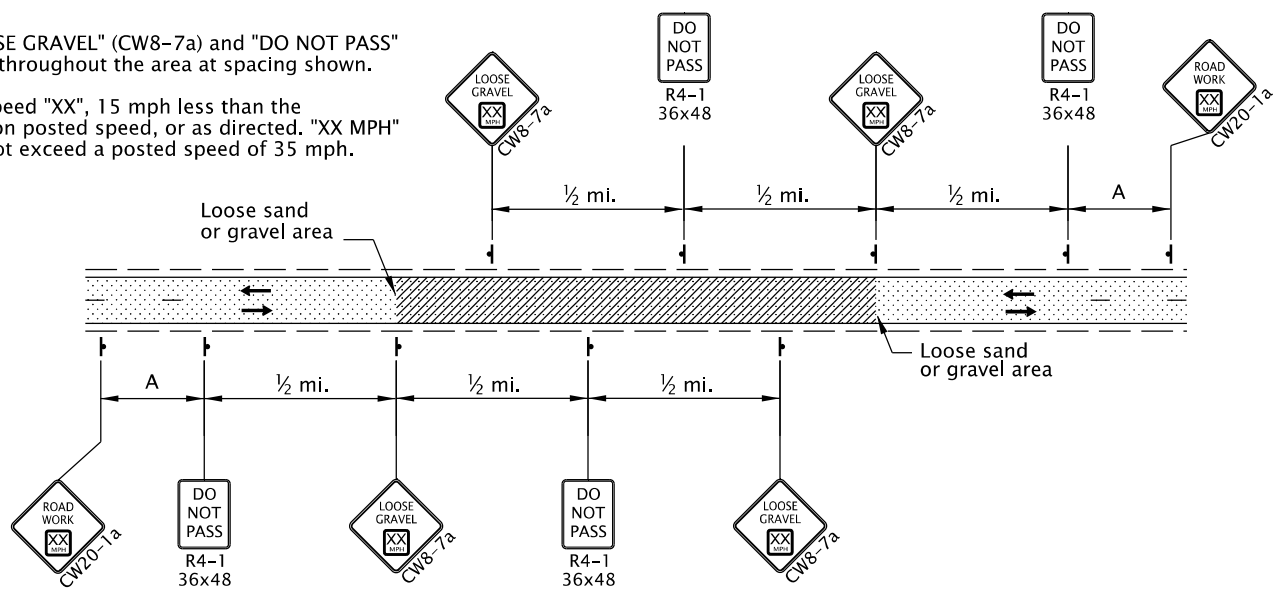
DATE	REVISION	DESCRIPTION
07-2019	REVISED DRAWING	

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UNDER TRAFFIC
 UNDER CONSTRUCTION

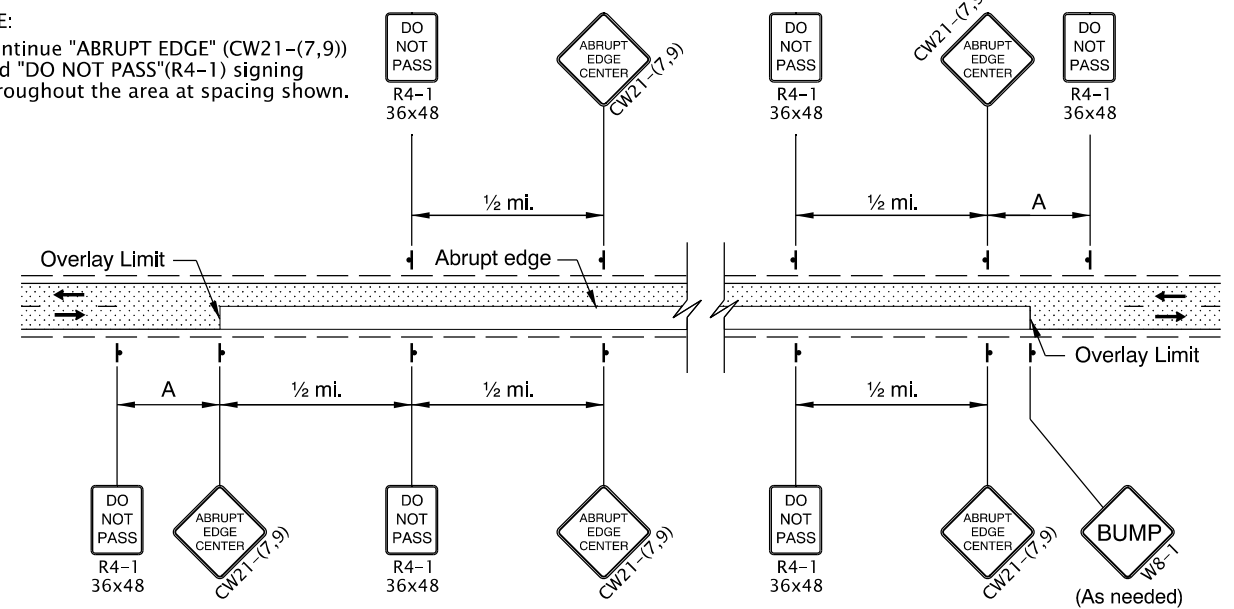
tm850.dgn 01-JAN-2020

- NOTE:
- Continue "LOOSE GRAVEL" (CW8-7a) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.
 - Use advisory speed "XX", 15 mph less than the pre-construction posted speed, or as directed. "XX MPH" placard shall not exceed a posted speed of 35 mph.



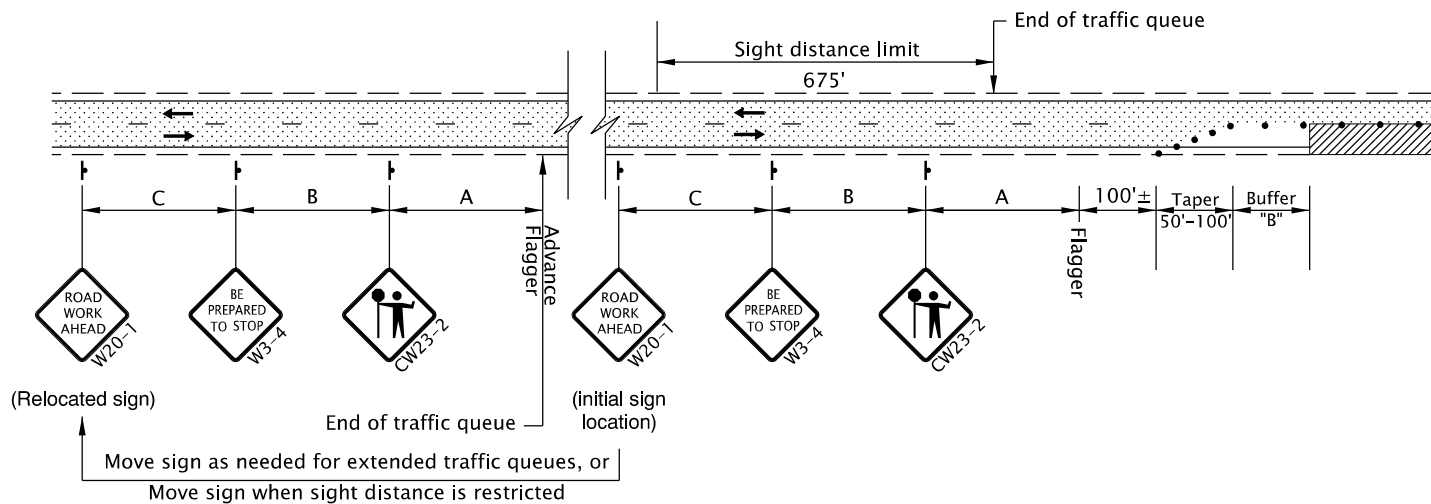
2-LANE, 2-WAY ROADWAY
LOOSE GRAVEL IN ROADWAY SIGNING

- NOTE:
- Continue "ABRUPT EDGE" (CW21-(7,9)) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.

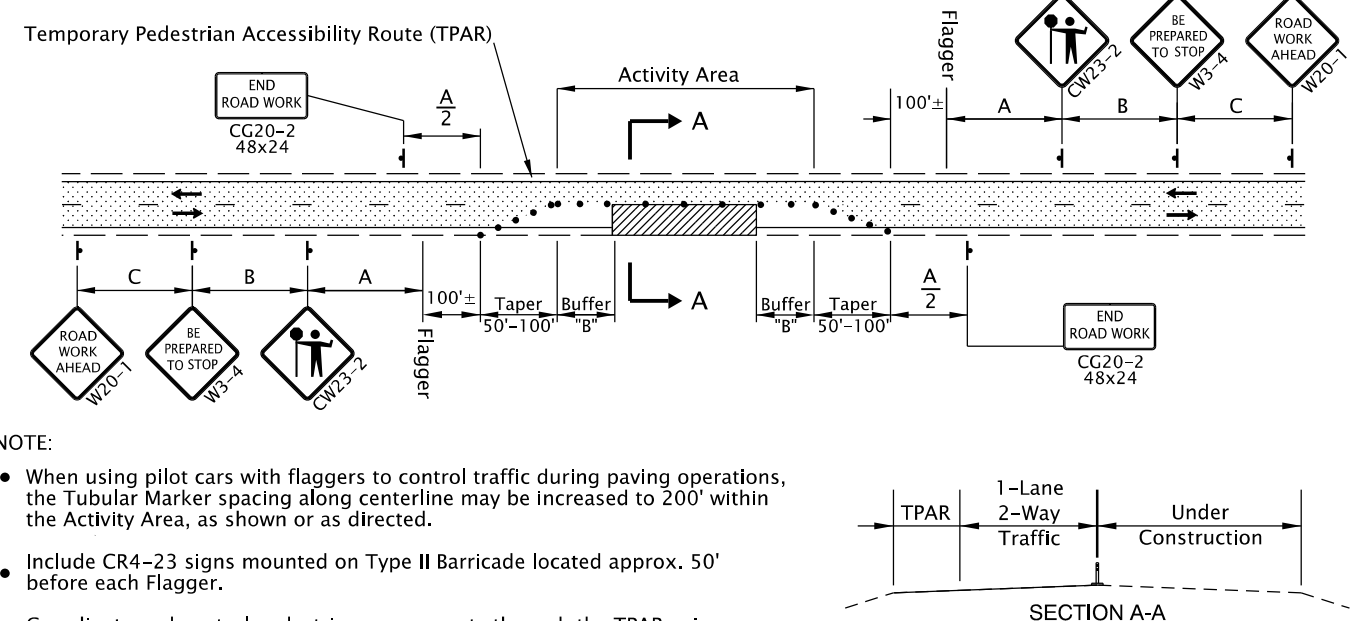


2-LANE, 2-WAY ROADWAY
OVERLAY AREA SIGNING

- NOTES:
- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
 - Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
 - Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.



ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES



- NOTE:
- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.
 - Include CR4-23 signs mounted on Type II Barricade located approx. 50' before each Flagger.
 - Coordinate and control pedestrians movements through the TPAR using flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.

2-LANE, 2-WAY ROADWAY
ONE LANE CLOSURE

GENERAL NOTES FOR ALL DETAILS:

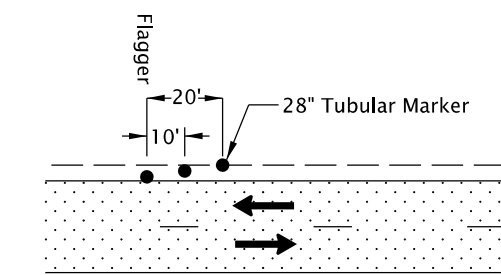
- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Drg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- To be accompanied by Drg. Nos. TM821.

- • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations

- • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

- UNDER TRAFFIC
- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

- NOTE:
- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



FLAGGER STATION DELINEATION

CALC. BOOK NO. _____ N/A _____

BASELINE REPORT DATE _____ 01-JAN-2020 _____

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2018

DATE	REVISION DESCRIPTION
01-2018	REVISED DRAWING AND NOTES
01-2020	REVISED NOTES

TM850